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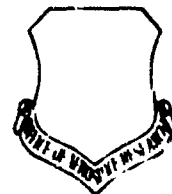
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**A Study of Vertically Incident Cosmic-Ray  
Trajectories Using Sixth-Degree  
Simulations of the Geomagnetic  
Field**

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## Abstract

A study has been made of vertically incident cosmic-ray trajectories at more than 400 positions on the earth's surface using sixth-degree simulations of the quiescent geomagnetic field. Twenty-six of these positions are near the South African magnetic anomaly, and six other points are in a region of the North Atlantic where Pomerantz and Agarwal have reported anomalous results. The trajectories have been calculated for rigidities separated by intervals as small as 0.01 bv to allow for the effects of the penumbra. When these trajectories are used to determine cosmic-ray cutoff rigidities, differences greater than 15 percent from the Quenby and Wenk threshold values are found in the vicinity of South Africa, the South Atlantic, and the Canary Islands. Various latitude surveys are shown to exhibit consistency when plotted against the cutoff rigidities determined by this computational method. It is concluded that although currently available simulations of the geomagnetic field are not completely adequate over some portions of the earth to describe the cosmic-ray effects in their entirety, there is essentially no difference in the cutoff rigidities determined using two currently accepted field models, even though different penumbral structures are obtained. Asymptotic directions of approach and cutoff rigidities for a number of locations are listed.

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# **A Study of Vertically Incident Cosmic-Ray Trajectories Using Sixth-Degree Simulations of the Geomagnetic Field**

## **1. INTRODUCTION**

The intensity of cosmic radiation detected at the earth's surface is directly related to the earth's magnetic field as has been shown by the theoretical studies of Stormer (1930), Lemaitre and Vallarta (1936) and various experimental studies typified by Compton and Turner (1937) and Rose et al (1956). Using the Stormer theory of particle motion in a dipole field, it can be shown that near the equator only primary particles of rigidity  $\geq 10.2$  bv can penetrate the geomagnetic field, interact with the atmosphere, and produce secondaries which arrive at the earth's surface, while at higher latitudes particles of lower rigidity can be detected.

The cutoff rigidity,  $P_c$ , is defined as the lowest rigidity a particle may possess and still arrive at a specific point on the earth's surface (Stormer, 1930; Rossi, 1940). The cutoff rigidity of any geographic location is a function of both the zenith and azimuth angles of arrival; however, by common usage, the cutoff of a specific point is the minimum rigidity for which cosmic rays can arrive at that point from the zenith. This rigidity is defined as the vertical cutoff rigidity. At the magnetic equator the vertical cutoff rigidity is  $\sim 15$  bv, while at the magnetic poles it is theoretically zero.

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\*In this paper the unit rigidity (momentum/charge ratio) will be used instead of energy. The conversion from rigidity to kinetic energy is given in Appendix A.

For detectors located on the earth's surface, the shielding effect of the atmosphere must also be considered. In a plot of cosmic-ray intensity vs increasing geomagnetic latitude, there is a point above which the intensity is essentially constant. This effect is due to atmospheric absorption and the relatively small fluxes of particles with rigidities less than 1 bv. The point on the intensity curve at which the gradient equals zero is defined as the "knee", and is located at a cutoff rigidity of approximately 2 bv (Singer, 1958).

Many latitude curves have been obtained by recording the intensity of the nucleonic component of the cosmic radiation with neutron monitors located on ships and airplanes. In all cases the method is to obtain the counting rate (corrected for atmospheric pressure variations) as a function of geographic coordinates. Data obtained aboard ships are also corrected for short-term time variations such as Forbush decreases. In the conventional analysis procedure, the assumption is that the earth's magnetic field is a dipole; the geographic data are transformed to geomagnetic coordinates, and the cosmic-ray intensity is plotted as a function of the geomagnetic latitude or the corresponding vertical Stormer cutoff rigidity. Even though a plot of this type does order the data from various surveys to some degree, there are still glaring inconsistencies, and the cutoff rigidity of the "knee" is not unique. The knee of the latitude curve is known to shift to slightly higher values of rigidity during solar maximum when the intensity of lower rigidity particles is significantly reduced (Meyer and Simpson, 1957); however, even this fails to account for large discrepancies in the cutoff rigidity assigned to the knee by some experimenters. An excellent example of such a discrepancy is shown by the data obtained near South Africa by Kodama and Miyazaki (1957) on the SOYA voyage from November 1956 to March 1957. A plot of neutron intensity vs cutoff rigidity using the Stormer cutoff values yields a knee at 6.3 bv as shown in Figure 1a, whereas similar measurements made in a number of other regions on the earth's surface indicate a knee at much lower values of the cutoff rigidity.

Because there are such large disagreements between these latitude surveys, the various methods for determining cutoff rigidities must be investigated. Stormer used the simple dipole theory which was later replaced by the eccentric dipole (Vallarta, 1935). Later improvements to these calculations, using non-dipole terms for the field were made by Quenby and Webber (1959). However, even these values proved to be inaccurate as shown by Freon and McCracken (1962) who found that the neutron monitor data obtained during the solar flares of November 1960 at the Kerguelen Islands were inconsistent with those of the other stations when these data were plotted as a function of the Quenby and Webber cutoff values. By using a computer program designed to calculate to a high degree of precision the trajectory of a particle in the geomagnetic field, Freon and McCracken found the value of the computed cutoff for the Kerguelen Islands to be considerably lower than the value

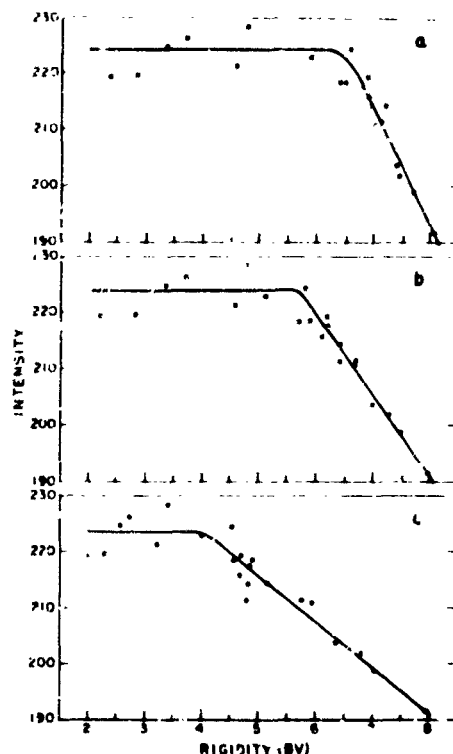


Figure 1. Neutron Intensity from the 1956-1957 SOYA Voyage vs (a) the Stormer Vertical Cutoff Rigidities, (b) the Quenby and Wenk Vertical Cutoff Rigidities, and (c) the Vertical Cutoff Rigidities Calculated from the Particle Trajectory Method

predicted by Quenby and Webber, and this new calculated value was in much better agreement with observed cosmic-ray flare data.

A more recent and extensive study of this problem has been made by Quenby and Wenk (1962) who have used the field line calculations of Hultqvist (1958) to calculate the cutoff at geomagnetic latitudes greater than 40 degrees, a modified Stormer method for geomagnetic latitudes less than 20 degrees, and a combination of these two methods for mid-latitude calculations. To date, this appears to be the best approximation for worldwide cutoff rigidity values as shown by the project MAGNET airplane data of Pommerants and Agarwal (1962) where the knee for several flights is at a cutoff rigidity between 2-3 bv. However, as noted by these authors, some disagreement still exists because the data from one particular MAGNET flight from Paris to the Canary Islands were not consistent with the other data.

This disagreement, significant for the MAGNET data, is much more pronounced for the SOYA data (Kodama, 1960) where the position determined for the knee has a corresponding cutoff rigidity of 5.6 bv determined from the Quenby and Wenk values as shown in Figure 1b.

The method for making a rigorous determination of the cutoff rigidity by calculating the trajectories of particles as they traverse the earth's magnetic field has long been advocated (Vallarta, 1938), but the tremendous amount of calculation involved has until recently made this approach virtually impossible. The advent of high speed digital computers has made tractable the application of such a numerical method, and this particular method has been utilized in the present paper to study the existing discrepancies between experimental and theoretical cutoff rigidities. Unfortunately, the extreme complexity of the problem still makes it impracticable to calculate the cutoff rigidities for an unlimited number of points on the earth's surface. However, the method does make it possible to verify the accuracy of any other less time consuming methods proposed for determining cutoff rigidities.

## 2. METHOD

### 2.1 Physical Problem

The cosmic ray particles that arrive at any point on the earth's surface have undergone deflection in the geomagnetic field. In order to relate intensity data observed on the ground to the primary cosmic radiation in space, it is essential to make full allowance for these deflections in the analysis of the data. To this end, the asymptotic direction of approach ( $P, \Lambda, \psi$ ) of a cosmic ray of rigidity  $P$ , which arrives at the earth from the direction  $\Lambda, \psi$ , has been defined as the direction from which the particle was moving prior to its entry into the geomagnetic field. (See Figure 2.)

Except for the special case of asymptotic directions lying in the equatorial plane of a simple dipole field, there are no analytic expressions for the asymptotic directions. Therefore, evaluation of the asymptotic directions has been possible only through model experiments in which a small model of the earth and its field is used to experimentally simulate the actual physical situation, or through numerical integration of the equations of motion of the particle. The former method has been exploited extensively by Malmfors (1945), Brunberg (1953), and Brunberg and Dattner (1953), while the latter method has been pursued by Stormer (1955), Jory (1956), and Lust and Simpson (1957).

Without exception, the above data have been obtained using a dipole simulation of the geomagnetic field. Experimental studies of the cosmic ray latitude effect and studies of the geomagnetic cutoff effect have illustrated that spherical harmonics up to the sixth degree have significant effects upon the cosmic radiation observed at the surface of the earth. The first trajectory calculations using sixth-degree harmonics were published by McCracken et al (1962), and recently Hatton and Carswell (1963), McCracken et al (1965), and others have added to such data.

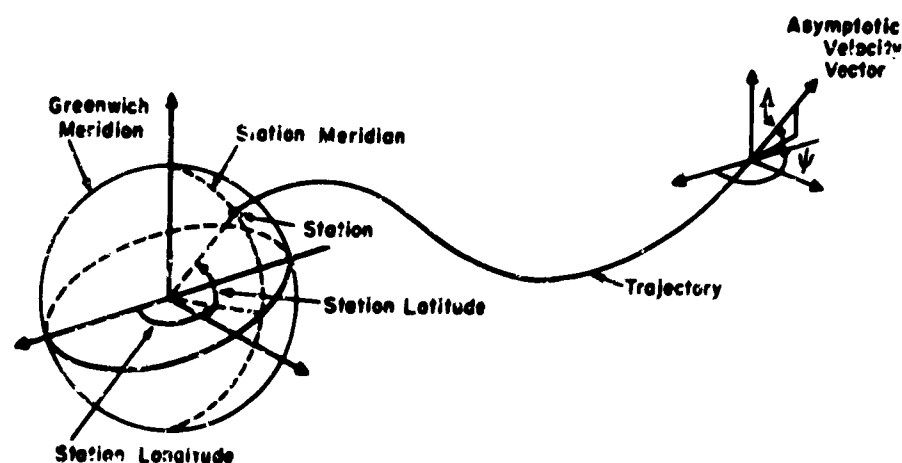


Figure 2. Illustration of the Definition of the Asymptotic Direction of Approach

## 2.2 The Basic Mathematical Formulation

The mathematical formulation of the problem will be presented in spherical polar coordinates using the following symbols

$\vec{R}$	position vector of cosmic ray
$r$	radial distance from center of the earth
$\theta$	co-latitude
$\phi$	longitude measured eastward from Greenwich meridian
$\vec{v}$	cosmic ray velocity vector
$v$	magnitude of particle velocity
$v_r, v_\theta, v_\phi$	velocity components in $r, \theta, \phi$ directions
$c$	velocity of light
$m$	inertial mass of cosmic ray
	$\left[ m = m_0 \left( 1 - \frac{v^2}{c^2} \right)^{-1/2} \right]$ where $m_0$ is rest mass
$\vec{B}$	vector magnetic induction in gauss
$e$	cosmic ray charge in electrostatic units (esu)

The equation of motion of the particle in the Gaussian system of units is:

$$m \frac{d^2 \vec{R}}{dt^2} = \frac{e}{c} \left( \frac{d\vec{R}}{dt} \times \vec{B} \right) \quad (1)$$

and this may be written in terms of the spherical coordinate system as follows:

$$\left. \begin{aligned}
 \frac{dv_r}{dt} &= \frac{e}{mc} \left( v_\theta B_\phi - v_\phi B_\theta \right) - \frac{v_\theta^2}{r} + \frac{v_\phi^2}{r} \\
 \frac{dv_\theta}{dt} &= \frac{e}{mc} \left( v_\phi B_r - v_r B_\phi \right) - \frac{v_r v_\theta}{r} + \frac{v_\phi^2}{r \tan \theta} \\
 \frac{dv_\phi}{dt} &= \frac{e}{mc} \left( v_r B_\theta - v_\theta B_r \right) - \frac{v_r v_\phi}{r} - \frac{v_\theta v_\phi}{r \tan \theta} \\
 \frac{dr}{dt} &= v_r \\
 \frac{d\theta}{dt} &= \frac{v_\theta}{r} \\
 \frac{d\phi}{dt} &= \frac{v_\phi}{r \sin \theta}
 \end{aligned} \right\} (2)$$

This system of simultaneous linear differential equations can be integrated numerically if the components of the magnetic induction  $B_r$ ,  $B_\theta$ ,  $B_\phi$  are known as explicit functions of  $r$ ,  $\theta$ , and  $\phi$ . If the field outside the earth is curl free, we may unambiguously define a magnetic potential  $U$  which can be expanded in spherical harmonics, thus

$$U(r, \theta, \phi) = a \sum_{n=0}^{\infty} \sum_{m=0}^n (g_n^m \cos m\phi + h_n^m \sin m\phi) P_n^m(\cos \theta) \left(\frac{a}{r}\right)^{n+1}$$

where  $g_n^m$ ,  $h_n^m$  are the Gauss coefficients,  $P_n^m(\cos \theta)$  are the partially normalized Legendre functions, and  $a$  is the average radius of the earth (Chapman and Bartels, 1951). The magnetic induction at the point  $(r, \theta, \phi)$  is then given by

$$B_r = - \frac{\partial U(r, \theta, \phi)}{\partial r}, \quad B_\theta = - \frac{1}{r} \frac{\partial U(r, \theta, \phi)}{\partial \theta}, \quad B_\phi = - \frac{1}{r \sin \theta} \frac{\partial U(r, \theta, \phi)}{\partial \phi}$$

which, by using the equation for  $U$ , may be written as explicit formulae in  $r$ ,  $\theta$ , and  $\phi$ .

Hence  $B$  is known at all points, and it is therefore possible to determine the trajectory of a cosmic ray particle by numerical integration of eq (2). In practice, the Gill modification of the Runge-Kutta integration process is employed (Gill, 1951). In this process, a knowledge of the position and velocity coordinates of one point on the trajectory is used in conjunction with the differential equations to give the coordinates of a subsequent point on the trajectory. Repeated application gives sufficient points to locate the trajectory in space.

In practice, it is necessary to know the initial direction in space of a cosmic ray, which ultimately arrives at some given point, from a specified direction. Equation 1 shows that if the sign of  $g$  and the direction of motion are reversed, the equation remains unaltered. That is, the trajectory of a negative particle leaving the earth is the same as that of a positive particle approaching the earth. To find the asymptotic direction of approach of a cosmic-ray particle with a given rigidity and a specified direction of arrival, the trajectory of a negative particle of the same rigidity will be determined leaving  $S$  antiparallel to the direction of arrival of interest. The trajectory is followed to a point far from the earth, at which point the direction of motion of the particle is calculated. This direction is the asymptotic direction of approach corresponding to the point  $S$ .

The problem therefore breaks down into three distinct stages:

- 1) the determination of the initial point on the trajectory,
- 2) determination of the trajectory to a point well removed from the earth, and
- 3) calculation of the asymptotic directions.

These stages will now be considered individually. All calculations are made for a single nucleon; the results are immediately applicable to other particles since the trajectories of two particles of equal momentum to charge ratios (rigidities) are identical.

In the calculations, and in the statement of the initial conditions for any desired trajectory, it is convenient to express all distances in terms of the average value for the radius of the earth.

The initial distance from the center of the earth will be taken to be 20 km above the surface of the earth. In the vicinity of this altitude most cosmic rays undergo nuclear collisions. Taking the oblateness of the earth into account, the radial distance (in earth radii) to the initial point is

$$r_{\text{initial}} = \frac{1}{a} \left[ b (1 - e^2 \cos^2 \lambda)^{-1/2} + 20.0 \right]$$



where  $b = 6356.9$  km is the minimum (polar) radius of the earth,  $e$  is the eccentricity ( $e^2 = 6.725 \times 10^{-3}$ ) of the earth,  $a$  is the average radius of the earth (6371.2 km), and  $\lambda$  is the geographic latitude of the initial point.

The velocity of the particle of momentum  $p$  Bev/c is given by

$$v = \frac{pc}{(R^2 + p^2)^{1/2}}$$

where  $R$  is the rest energy, 0.931 Bev. The three components of the velocity are

$$(v_r)_{\text{initial}} = v \cos Z$$

$$(v_\theta)_{\text{initial}} = -v \sin Z \cos A$$

$$(v_\phi)_{\text{initial}} = v \sin Z \sin A$$

where  $(Z, A)$  are the zenith and azimuth angles specifying the direction of arrival at the top of the atmosphere.  $A$  is measured eastward from geographic north.

The step by step determination of the trajectory is achieved using the Runge-Kutta integration process. The further the negative particle recedes from the earth, the less important the higher degree terms in the field expansion become, and the greater the radius of curvature of the trajectory becomes. Hence as  $r$  increases, the field expansion at higher degree terms may be truncated, and the length of the step in the Runge-Kutta integration process may be increased. Table 1 indicates the highest-degree terms which have been used at different distances from the center of the earth. The length of the Runge-Kutta step is changed when going from one range to the next.

Table 1. Highest Degree Terms Used at Different Distances from the Center of the Earth

Maximum Degree in Field Expansion	Range of Employment (Distance in Earth Radii)
6	$0 \leq r < 2.5$
5	$2.5 \leq r < 3.0$
4	$3.0 \leq r < 5.4$
3	$5.4 \leq r < 10.0$
2	$10.0 \leq r < 50.0$

After each step in the integration process, the value of  $r$  corresponding to the new point on the trajectory is examined. If it is less than 1.0, the trajectory has intersected the earth and integration ceases permanently; if it has entered a new range as shown in Table 1, the maximum degree employed in the field expansion and the Runge-Kutta step length are adjusted accordingly.

As a check on the accuracy of the computation, the particle velocity in units of the velocity of light (beta) is calculated at a number of points along the trajectory. If beta changes by more than one part in  $10^5$ , the trajectory is rejected as erroneous and recalculated. Small iterative steps are used for all calculations to insure that the increment length is always much smaller than the radius of curvature of the particle, since computation errors are a strong function of the increments in the iterative process.

In this problem a negative particle of rigidity  $P$  is assumed to start from a point 20 km above a specific location on the earth with a zenith angle of zero degrees (vertical incidence). The path of the particle is traced through the earth's magnetic field until the orbit is found to be either allowed or forbidden by the following criteria: if the orbit is traceable to 25 earth radii ( $r$ ) it is considered to be allowed<sup>\*</sup>; if it intersects the earth it is considered to be forbidden (or reentrant).

At rigidities close to the cutoff rigidity, the orbits may be very complex, necessitating a great number of iterative steps before the orbit can be classified as either allowed or forbidden. In practice, therefore, an arbitrary limit of 15,000 iterative steps is imposed<sup>†</sup>; any orbit that is incomplete after this number of iterations is declared forbidden. Extensive sample calculations have shown that a trajectory which does not reach an allowed solution by 15,000 iterations is usually reentrant if the integration is continued.

With respect to the orbits that are allowed, once the integration process reaches a value where  $r > 25$ , the calculation enters the third stage. The position and velocity

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\*In fact it is only necessary to trace the particle through the "jaws" as defined by Quenby and Webber (1959) to insure that it is moving in an allowed orbit. The jaws occur at a distance of  $\frac{2}{\cos^2 \lambda'}$  (earth radii) from the center of the pure geomagnetic dipole where  $\lambda'$  is the geomagnetic latitude of the point under consideration. In practice then, it would be acceptable to use the criterion that if the particle reaches a point in excess of twice the above distance, namely  $\frac{4}{\cos^2 \lambda'}$ , it is moving in an allowed orbit.

†This corresponds to a time of about 0.75 sec spent in the geomagnetic field by the cosmic ray under consideration. During most of this time the particle is within five earth radii of the earth's center. Tests have shown that cumulative errors are not appreciable for trajectories requiring this number of iterative steps if the iteration length is sufficiently small.

components at a far distant point on the trajectory are known and the requirement is to specify the direction of the particle velocity vector in terms of the geographic coordinate system.

The "asymptotic latitude",  $\Lambda$ , is given by

$$\tan \Lambda = \frac{-v_{\theta} \sin \theta + v_r \cos \theta}{\left[ v_{\phi}^2 + (v_{\theta} \cos \theta + v_r \sin \theta)^2 \right]^{1/2}}$$

and the "asymptotic longitude",  $\psi$ , by

$$\psi = \phi + \tan^{-1} \left[ \frac{v_{\phi}}{v_{\theta} \cos \theta + v_r \sin \theta} \right].$$

The solution of these two equations determines the direction in space from which the particle has come.

### 2.3 Application

The particle trajectories for various rigidities have been calculated for many points along the routes of the 1956-1957 SOYA voyage from Japan to Antarctica and the July-August 1960 project MAGNET airplane flight between Paris and the Canary Islands. These locations as well as those of neutron monitors and other miscellaneous points for which vertical cutoff rigidities have been calculated are shown in Figure 3. The calculations were made utilizing a FORTRAN computer program (McCracken et al, 1962) which integrates the previously defined equations of motion of a charged particle in any specified geomagnetic field. These trajectories were calculated on a Philco 2000 computer with a precision of 10 decimal digits.

In this work attention has been restricted to the geomagnetic field of internal origin. The majority of the calculations have employed the Finch and Leaton (1957) simulation of the geomagnetic field; however, a number of calculations have been made using the Jensen and Cain (1962) simulation in order to test for insensitivity to the specific field simulation used.

### 2.4 Determination of Cutoff Rigidities

If there were a unique rigidity  $P'$  below which all rigidities were forbidden and above which all were allowed, then the counting rate of a cosmic-ray detector due to

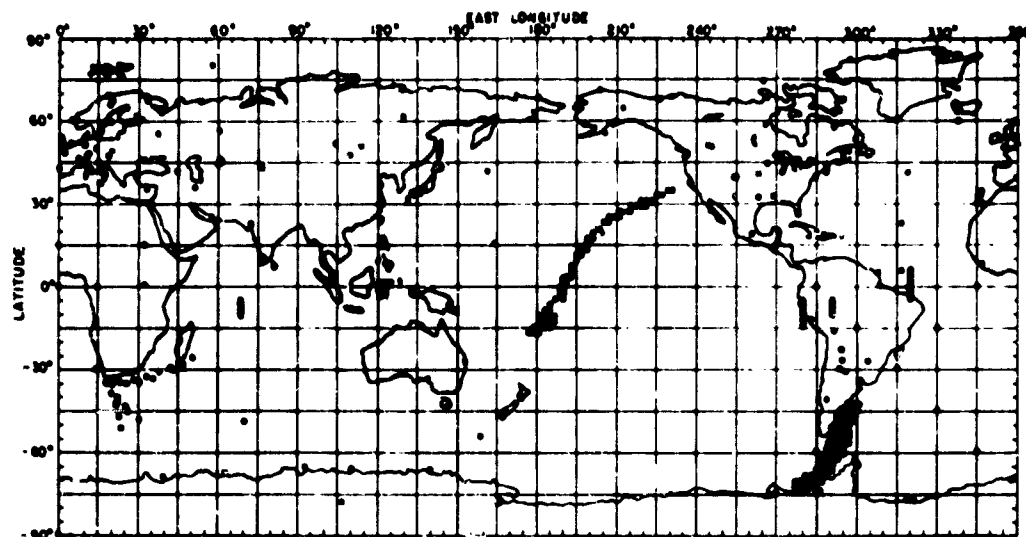


Figure 3. World Map showing the Locations where Vertical Cosmic-Ray Cutoff Rigidities have been Calculated using the Trajectory Method described in this Paper. The SOYA points are those near South Africa and the six project MAGNET points are clustered off the Morocco coast

vertically incident particles would be given by

$$N_V(P', x, t) = \int_{P'}^{\infty} j(P, t) S(P, x) dP \quad (3)$$

where:

- $N_V$  = the counting rate due to vertically incident particles,
- $P$  = rigidity,
- $x$  = depth in the atmosphere,
- $j(P, t)$  = the differential primary rigidity spectrum of the cosmic radiation outside the geomagnetic field at the particular time,  $t$ , and
- $S(P, x)$  = the specific yield function (Simpson et al, 1953).

For this analysis, the assumption implicit in Eq. (3), that the cosmic radiation outside of the geomagnetic field is isotropic, is valid. For detectors at a constant atmospheric depth, and with the assumption that no time variations are present, Eq. (3) becomes

$$N_V(P') = \int_{P'}^{\infty} j(P) S(P) dP. \quad (4)$$

Examination of the results of trajectory calculations for various points on the earth's surface shows that at geomagnetic latitudes greater than approximately 50 deg and for those less than approximately 20 deg, a unique  $P'$  does exist to a good degree of approximation, and Eq. (4) is valid. At mid-latitudes ( $20^\circ \leq \lambda' \leq 50^\circ$ ) however, where there are alternating bands of "allowed" and "forbidden" rigidities, no unique  $P'$  can be defined, and Eq. (4) is not immediately applicable. The rigidity range for which trajectories may be either allowed or forbidden corresponds to the "penumbra" in the allowed cone (Vallarta, 1935). These "penumbral bands" are illustrated in Figures 4 and 5.

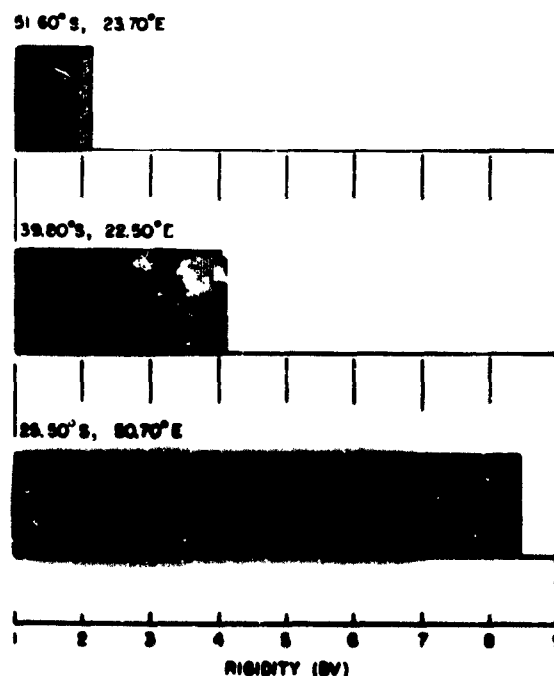


Figure 4. Allowed (white), Penumbral (dotted), and Forbidden (black) Regions for Various Latitudes as determined from the Particle Trajectory Calculations

By analogy to the Lemaître-Vallarta theory of the allowed cone, the rigidity below which no allowed orbits have been found will be called the Stormer cutoff rigidity,  $P_s$ ; the main cone cutoff rigidity,  $P_m$ , will be defined as that rigidity above which no forbidden trajectories have been found.

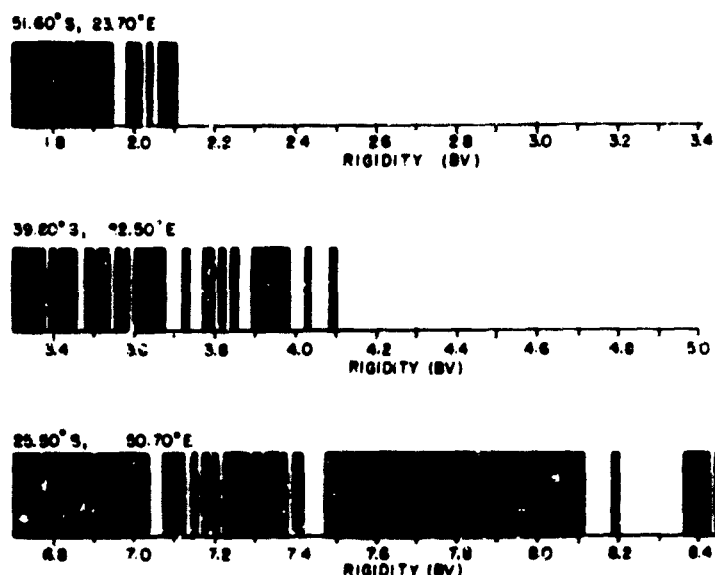


Figure 5. Detailed Illustration of the Penumbral Bands showing the Allowed (white) and Forbidden (black) Trajectories for Various Latitudes as Determined from the Trajectory Calculations

In the case of a geographic location for which penumbra effects are important, the "vertical counting rate" is given by

$$N_v = \int_{P_s}^{P_1} j(P) S(P) dP + \int_{P_2}^{P_3} j(P) S(P) dP + \dots + \int_{P_m}^{\infty} j(P) S(P) dP$$

where the integration is over values of  $P$  which are allowed.

Examination of results such as those shown in the tables in the appendices indicates that the effects of the penumbra may extend over a rigidity range of as much as 3.0 bv. To make the problem tractable the approximation is made that

$$N_v = \overline{j(P) S(P)} \left[ \int_{P_s}^{P_m} dP \right]_{\text{allowed}} + \int_{P_m}^{\infty} j(P) S(P) dP \quad (5)$$

where  $\overline{j(P) S(P)}$  is the mean value of the product  $j(P) S(P)$  over the rigidity range from  $P_s$  to  $P_m$ , and the integral is over all allowed rigidities between these limits.

From Eq. (5) it can be seen that the effective cutoff rigidity is

$$P_c = P_m - \left[ \begin{array}{c} P_m \\ \int dP \\ P_s \end{array} \right]_{\text{allowed}}. \quad (6)$$

The procedure used to determine the cutoff at points along the SOYA and MAGNET routes is to calculate the trajectories at rigidity intervals of 0.25 bv in order to determine the approximate cutoff rigidity. The rigidity interval near the cutoff is then decreased to 0.10 bv in order to determine the limits within which penumbral effects are apparent. The penumbral region is further divided, and trajectories are calculated for rigidities within this region at 0.01-bv intervals. The cutoff determination of a point is considered complete when at least 20 consecutive forbidden trajectories are calculated below the last allowed rigidity, and further sampling of the next 1 bv at 0.05-bv intervals reveals no additional allowed trajectories. A complete list of the asymptotic directions obtained for all geographical locations mentioned in this paper is given in Appendix C.

By examining the results of these calculations, the equivalent "Stormer" cutoff rigidity is found, below which all orbits are forbidden. The equivalent main cone cutoff rigidity above which all orbits are allowed is obtained in a similar manner. Now the approximation is made that if the point is accessible for some rigidity  $P_1'$ , then it is also accessible for  $P_1' - 0.005 \leq P < P_1' + 0.005$  bv. This approximation permits immediate evaluation of the integral in Eq. (6), and thence the effective cutoff rigidity  $P_c$ . Examination of the data for the SOYA voyage location of 39.8°S, 22.5°E, as listed in the tables in Appendix C yields  $P_m = 4.10$  bv and  $P_s = 3.38$  bv. The rigidity range between these rigidities, with its alternating bands of forbidden and allowed orbits, is the penumbral region. Of the 72 trajectories determined in this rigidity range, 38 of the orbits are allowed. Thus, the integral over the allowed directions is 0.38 bv, and the effective cutoff rigidity is 3.72 bv. This method was selected as being well defined and is used to insure consistent analysis of the data.

The penumbral region actually exhibits a very fine structure and the sampling technique used here will introduce sampling errors which will become smaller as the sampling interval is reduced. To check the suitability of the 0.01-bv interval used within the penumbral region, the method described here was repeated, using successively larger intervals from 0.01 bv to 0.10 bv. Starting at an arbitrary origin above the main cone, the effective cutoff is determined for the specified interval size. Then the process is repeated, lowering the origin by 0.01 bv each time until all possible effective cutoffs for this interval size have been determined.

This method may be applied to the data for coordinates  $39.8^{\circ}\text{S}$ ,  $22.5^{\circ}\text{E}$  with the following results:

- a. Intervals of 0.02 bv yield cutoffs of 3.70 bv and 3.75 bv.
- b. Intervals of 0.05 bv result in 5 possible cutoff values with a minimum of 3.69 bv and a maximum of 3.83 bv.
- c. Intervals of 0.10 bv give 10 possible values with a minimum and maximum cutoff of 3.60 bv and 4.03 bv respectively. This deviation is more than 10% of the calculated cutoff of 3.72 bv.

Since doubling the 0.01-bv interval yields essentially the same result (within 1%) while a further expansion of the interval does not give the same consistency, it is concluded that 0.01 bv is a satisfactory interval size for use throughout the penumbral region.

As discussed previously, three distinct cutoff rigidities have actually been defined: the main cone cutoff, the effective cutoff, and the Stormer cutoff. The arbitrary limit of 15,000 iterations probably does not cause any error in the determination of the main cone cutoff since these trajectories typically require about 1000 or less iterations. A slight error may occur in determining the Stormer cutoff since a few of the trajectories in the mid-latitude region fail to reach a solution. It is estimated that the error in the effective cutoff rigidity as defined in this paper is generally less than 0.05 bv. (These are "computational errors". Clearly, the accuracy of the field simulation has an important effect upon the actual errors. This effect is not included within the limit.)

It should be mentioned that a slight error arises from neglecting the different yield functions for different rigidities. With reference to the coordinates  $39.8^{\circ}\text{S}$ ,  $22.5^{\circ}\text{E}$ , it is noted that in grouping the allowed orbits of 3.38-3.50 bv with the allowed orbits at higher rigidities, the counting rates should be weighted for the difference in yield for these rigidities.

### 3. RESULTS

The effective vertical cutoff rigidities, determined by the method discussed previously, for geographic positions along the 1956-1957 SOYA route, are listed in Table 2 together with the upper and lower rigidities defining the penumbral region. The Querby and Wenk (1962) cutoff values, determined from a linear interpolation of their table to correct for position, are also given. The difference between the Querby and Wenk and calculated cutoff values is listed in both bv and in percent. Table 2 also includes two positions taken from the 1960-1961 SOYA voyage. These two locations,  $39.80^{\circ}\text{S}$ ,  $22.50^{\circ}\text{E}$  and  $43.10^{\circ}\text{S}$ ,  $25.30^{\circ}\text{E}$ , were selected as being approximately on and slightly above the knee of the geomagnetic latitude vs cosmic-ray intensity curve for the voyage.



Table 2. Summary of the SOYA Data

Geographic Latitude	Geographic Longitude (E)	Penumbra Region		$P_c$ (Q&W)*	$P_c$ (Calc)**	$\Delta P_c$ (bv)	$\Delta P_c$ (%)
		$P_m$ (bv)	$P_s$ (bv)				
-51.6	23.7	2.11	1.85	2.20	2.02	0.18	8.5
-47.9	30.5	2.57	2.15	2.62	2.30	0.32	13.0
-47.1	22.9	2.79	2.41	3.08	2.59	0.49	17.3
-45.0	26.0	2.96	2.55	3.35	2.75	0.60	19.7
-43.1+	25.3	3.48	2.75	3.72	3.17	0.55	16.0
-42.6	21.7	3.56	3.04	3.95	3.24	0.71	19.7
-41.7	22.2	3.84	3.24	4.11	3.43	0.68	18.3
-39.8+	22.5	4.10	3.38	4.50	3.72	0.78	19.0
-38.4	20.0	4.24	3.65	5.11	4.03	1.08	23.6
-35.1	20.4	4.94	4.21	6.1	4.69	1.41	26.1
-35.1	25.7	4.82	4.04	5.8	4.56	1.24	23.9
-34.8	18.2	5.09	4.19	6.4	4.81	1.59	28.4
-34.7	30.6	4.86	3.94	5.7	4.58	1.09	21.0
-34.6	23.2	4.96	4.30	6.2	4.72	1.48	27.1
-34.5	18.4	5.16	4.46	6.4	4.85	1.55	27.6
-33.8	28.3	5.10	4.31	6.2	4.89	1.31	23.6
-33.3	35.7	5.14	4.30	5.9	4.91	0.98	18.1
-32.4	33.2	5.44	4.80	6.4	5.18	1.22	21.1
-30.7	38.1	6.83	5.09	6.7	5.77	0.93	14.9
-30.1	43.3	6.25	5.14	6.7	5.96	0.74	11.7
-29.1	42.3	6.76	5.52	7.0	6.36	0.64	9.6
-28.1	47.0	7.20	5.76	7.3	6.81	0.49	6.9
-27.6	45.4	7.45	5.97	7.5	7.04	0.46	6.2
-25.5	50.7	8.46	6.90	8.0	7.97	0.03	0.4

\* Quenby and Wenk vertical cutoff rigidities.

\*\* "Effective" vertical cutoff rigidities as calculated by the trajectory method.

+ These positions were taken from the 1960 SOYA voyages. Other symbols are defined in the text.

A summary of the MAGNET data is given in Table 3. Again both the Quenby and Wenk and the calculated cutoff rigidities are listed, together with the differences between the two values.

Table 3. Summary of MAGNET Data

Geographic Latitude	Geographic Longitude (E)	Penumbra Region		$P_c$ (Q&W)*	$P_c$ (Calc)**	$\Delta P_c$ (bv)
		$P_m$ (bv)	$P_s$ (bv)			
34.58	346.63	9.09	7.52	7.6	8.73	-1.13
33.60	346.33	9.57	8.23	8.0	9.24	-1.24
32.65	346.03	9.97	8.70	8.4	9.62	-1.22
31.40	345.65	10.47	8.76	9.0	10.14	-1.14
30.47	345.38	10.80	9.25	9.4	10.40	-1.00
29.52	347.12	11.25	9.74	10.1	10.73	-0.63

\* Quenby and Wenk vertical cutoff rigidities.

\*\* "Effective" vertical cutoff rigidities as calculated by the trajectory method. Other symbols are defined in the text.

#### 4. DISCUSSION

The vertical cutoff rigidities listed in Tables 2 and 3 illustrate the large differences between the Quenby and Wenk values and those calculated for the mid-latitude regions. Note that it is this latitude region over which the Quenby and Wenk values are least certain, having been obtained through an interpolation between the high and low latitude methods of calculation. Most of the points exhibiting the largest differences have wide penumbral zones, thus necessitating careful allowance for penumbral effects. That the method advanced in this paper is reliable, even at latitudes where penumbral effects are complex, is evidenced by the agreement between the calculations obtained using different simulations of the geomagnetic field. Quenby and Wenk have estimated their errors in the vicinity of the SOYA and the MAGNET data points to be in the range of 5 to 7 percent. This is considerably smaller than the 15-25 percent differences found between their values and the results of the trajectory method.

The accuracy of the calculated cutoff rigidities is clearly conditioned by the adequacy of the magnetic field simulation employed. The facts (1) that there is a secular variation in the earth's magnetic field, and (2) that the magnetic surveys used to deduce magnetic simulations do not have uniform coverage over the earth's surface, mean that simulations referring to different source data will differ from each other.

Cosmic-ray trajectories have been calculated using both the Finch and Leaton (epoch 1955, British Admiralty charts) and the Jensen and Cain (epoch 1960, U. S. Hydrographic Office charts) geomagnetic field simulations for more than 75 locations, as shown in Figure 6. A comparison of the results indicates that differences in the effective cutoff rigidity due to different field simulations are small, the rms difference being  $\sim 2$  percent. However, in all cases different penumbral structures are obtained as illustrated in Figure 7. In addition, different asymptotic directions for a specific rigidity (particularly near cutoff) are obtained. Since the asymptotic directions at high rigidities are essentially equal, and since there is basic agreement between the "effective cutoff rigidity" using the two field simulations, it appears that little change would be introduced into the cutoff values by going to yet another simulation of the geomagnetic field derived from essentially the same source data.

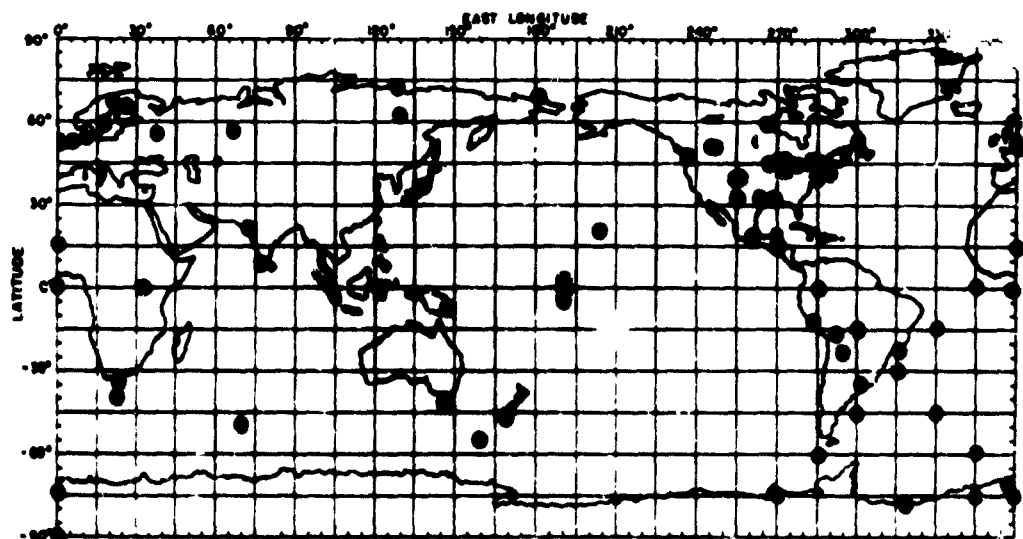


Figure 6. World Map showing the Locations where Vertical Cutoff Rigidities have been Calculated using the Trajectory Method with both the Finch and Leaton and the Jensen and Cain Geomagnetic Fields

Using the vertical cutoff values calculated in this paper for the SOYA voyage, a latitude curve was drawn and compared with the latitude curves from the Stormer and the Quenby and Wenk values. As shown in Figure 1c, the knee of the new latitude curve is found to be at  $\sim 4.0$  bv. This value is in better agreement with previous latitude surveys than the cutoff rigidities appropriate to the knees displayed in

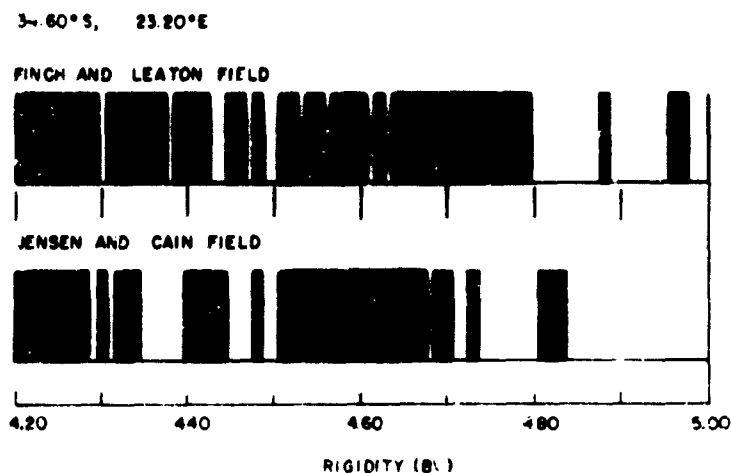


Figure 7. A Comparison of the Penumbral Bands for the Geographic Location 34.60°S, 23.20°E using the Finch and Leaton and the Jensen and Cain Geomagnetic Field Representations. The forbidden trajectories are in black

Figure 1a and 1b for other cutoff calculations, although it is still  $\sim 1$  bv higher than the value found by Pomerantz and Agarwal for points that do not include the South African area. However, since both the Jensen and Cain and the Finch and Leaton magnetic field configurations yield essentially the same cutoff rigidity for the knee at this location, it seems that this difference is due to inaccuracies in the magnetic field model rather than in the method.

Using the effective cutoff rigidities, the latitude curve obtained from the data on the MAGNET flight between Paris and the Canary Islands was found to be in better agreement with the data obtained from other flights, although even in this case a slight difference is observed. The reduction of the original difference in cutoff rigidity from 2.0 bv to  $\sim 0.5$  bv indicates the extent to which the Querby and Wenk approximations introduced errors into their cutoff calculations.

Because the method of computation described in this paper is superior to the other currently available methods, the scope of the paper has been extended to include the calculation of the vertical cutoff rigidity for many cosmic-ray stations around the world. The results are presented in Appendix B together with a list of other locations for which calculations have been made. An inspection of this table shows that at all points other than those in the vicinity of the South Atlantic, South Africa, the Canary Islands, and latitudes where there are appreciable penumbral effects (that is, penumbral region greater than 0.50 bv) the differences between values obtained by this method and the Querby and Wenk values are small. For example, the rms difference computed for a sample of 64 locations in the geographic areas just mentioned is 13.4 percent. This is to be compared with an rms difference of 5.9 percent, using 61 locations in areas where the penumbral effects are small.

It is interesting to compare the cutoffs calculated by the trajectory method used in this paper with those calculated by Sauer (1963) using a guiding center method. In general, there is good agreement at high latitudes but only fair agreement at mid-latitudes. In the majority of cases, the differences between this paper's Stormer cutoff (lowest rigidity allowed) and Sauer's cutoff is less than the difference between this paper's effective cutoff rigidity and Sauer's values. Table 4 presents the difference between the two methods as a function of rigidity.

Table 4. Average Difference Between Trajectory Cutoff Rigidities and Sauer's Cutoff Rigidities

$P_c$ (By Sauer)	Difference between trajectory "effective" $P_c$ and Sauer's $P_c$	Difference between trajectory "Stormer" $P_c$ and Sauer's $P_c$
$P_c < 2$	7%	8%
$2 \leq P_c < 3$	9%	6%
$3 \leq P_c < 4$	18%	7%
$P_c \geq 4$	19%	12%

The cutoffs calculated by the trajectory method have also been compared with those calculated by Makino (1963) and Kodama (1965). In the equatorial region Makino's data is in better agreement with the results of the trajectory calculations than the Quenby and Wenk values; in the mid-latitudes both methods give significantly different values from the trajectory results, and at high latitudes it is noted that Quenby and Wenk are in better agreement with the trajectory results than Makino. In considering anomalous regions as typified by the SOYA and project MAGNET locations, the Makino data appears to be better than the Quenby and Wenk values.

The results of Kodama are, in general, in good agreement with the trajectory calculations. Kodama also utilized the trajectory tracing method; however, he used larger rigidity intervals (0.1 bv) and he terminated his integration with 3000 iteration steps. The larger rigidity intervals lead to differences in the mid latitude; the 3000-step iteration limit results in large differences at locations where  $P_c < 1.00$  bv.

Although there is considerable improvement in the coherence of various latitude surveys when the trajectory method's cutoff rigidities are employed, there are still some discrepancies. These may be due to either (1) an inadequate knowledge of the geomagnetic field, or (2) inadequacy of the "vertical cutoff rigidity" as an indication of the total counting rate due to cosmic rays arriving at the earth from various

zenith directions. To discuss point (2), it is clear that while the mean lower limit of rigidity used in the calculations of the total counting rate will in fact differ from the vertical cutoff rigidity, it can be neither greater than the cutoff for arrival from the east at a zenith angle of 90 deg, nor less than the cutoff for arrival from the west at the same zenith angle. It will, in fact, be much closer to the effective vertical cutoff rigidity as defined in this paper. Now consider points on the SOYA curve (Figure 1c) at a vertical cutoff rigidity of 4.0 bv. Assuming the applicability of a zenith angle dependence similar to that obtained from Stormer theory, a vertical cutoff rigidity of 4.0 bv would permit a particle of 3.4 bv to arrive from the west at an angle of 90 deg from the vertical. That is, consideration of cosmic rays arriving from directions other than the zenith could not, under any circumstance, result in a reduction in the effective cutoff of more than 0.6 bv. Cosmic rays arriving from directions other than the vertical could not, therefore, be the reason that the SOYA "knee" is from 1.0 to 1.5 bv higher than the "knee" found elsewhere in the world, when counting rates are plotted against vertical cutoff rigidity. Consequently, it follows that in the vicinity of the SOYA route, the currently available simulations of the geomagnetic field are inadequate to explain in complete detail the observed properties of the cosmic radiation.

## 5. CONCLUSIONS

From this investigation, the following conclusions have been made:

1. The trajectory tracing method can be utilized to rigorously determine the cosmic-ray cutoff rigidity of any specified point if a sufficiently small (0.01-bv) rigidity interval is used throughout the penumbral region, and if a sufficiently large number of iterative steps is used to insure completion of even complex orbits.
2. The accuracy of these cutoff values is limited by the accuracy of the geomagnetic field model being utilized.
3. There is no significant difference in the effective cosmic-ray vertical cutoff rigidity as calculated using either the Finch and Leaton or the Jensen and Cain geomagnetic field coefficients, although different penumbral structures are obtained.
4. When cutoff values derived by the trajectory tracing method are applied to data reported to be anomalous when other methods of determining cutoff rigidities were used, the result is to order the data so that greater coherence is attained.

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## Appendix A

### Conversion of Rigidity to Kinetic Energy

From conservation of energy we know that the kinetic energy of a particle (T) equals the total energy (E) minus the rest mass energy ( $m_0 c^2$ ) given by

$$T = E - m_0 c^2 = \left[ p^2 c^2 + m_0^2 c^4 \right]^{1/2} - m_0 c^2$$

where  $E^2 = p^2 c^2 + m_0^2 c^4$  and  $m_0 c^2$  is the rest mass (rest energy of the particle). If the momentum is given in units of  $\frac{MeV}{c}$ , we can write  $pc = R$  (rigidity) for one unit of charge. For Z units of charge, R must be multiplied by Z. Thus, the total kinetic energy per particle is given by

$$T = \left[ Z^2 R^2 + m_0^2 c^4 \right]^{1/2} - m_0 c^2.$$

To obtain the kinetic energy per nucleon (K), the total kinetic energy of the particle must be divided by the total number of nucleons (N) in the particle,

$$K = \frac{T}{N} = \frac{\left[ Z^2 R^2 + m_0^2 c^4 \right]^{1/2} - m_0 c^2}{N}.$$

A2

If we are considering only protons, the values of Z and N are one and the preceding equation becomes

$$K = \left[ R^2 + m_0^2 c^4 \right]^{1/2} - m_0 c^2.$$

Table A1 gives the conversion from rigidity to kinetic energy per nucleon for the most common isotopes of the elements hydrogen, helium, lithium, beryllium, boron and iron. The charge to momentum ratio of

$${}_6\text{C}^{12}, {}_7\text{N}^{14}, {}_8\text{O}^{16}, {}_{10}\text{Ne}^{20}, {}_{12}\text{Mg}^{24}, {}_{14}\text{Si}^{28}, {}_{16}\text{S}^{32}, \text{ and } {}_{20}\text{Ca}^{40}$$

is very nearly identical to that of helium.

Table A1. Conversion from: Rigidity to Kinetic Energy per Nucleon for the Most Common Isotopes of Hydrogen, Helium, Lithium, Beryllium, Boron and Iron

RIGIDITY BV	KINETIC ENERGY PER NUCLEON (BEV)					
	<sup>1</sup> H 1	<sup>4</sup> HE 2	<sup>7</sup> LI 3	<sup>9</sup> BE 4	<sup>5</sup> B 11	<sup>56</sup> FE 26
0.1	0.005	0.001	0.001	0.001	0.001	0.001
0.2	0.021	0.005	0.004	0.004	0.004	0.005
0.3	0.047	0.012	0.009	0.010	0.010	0.010
0.4	0.082	0.021	0.016	0.017	0.018	0.018
0.5	0.125	0.033	0.024	0.026	0.027	0.028
0.6	0.175	0.047	0.035	0.037	0.039	0.041
0.7	0.232	0.064	0.047	0.050	0.053	0.055
0.8	0.295	0.082	0.061	0.066	0.068	0.071
0.9	0.362	0.103	0.077	0.082	0.086	0.090
1.0	0.433	0.126	0.094	0.100	0.105	0.109
1.1	0.508	0.150	0.112	0.120	0.126	0.131
1.2	0.585	0.176	0.132	0.142	0.148	0.154
1.3	0.665	0.204	0.154	0.164	0.172	0.179
1.5	0.831	0.264	0.200	0.214	0.223	0.232
1.7	1.004	0.329	0.251	0.268	0.279	0.290
2.0	1.271	0.435	0.334	0.356	0.370	0.384
2.2	1.454	0.510	0.393	0.419	0.435	0.451
2.5	1.732	0.627	0.488	0.518	0.538	0.557
3.0	2.205	0.834	0.655	0.695	0.720	0.745
3.2	2.396	0.920	0.726	0.768	0.796	0.823
3.5	2.685	1.051	0.833	0.881	0.912	0.942
4.0	3.170	1.275	1.018	1.075	1.111	1.147
4.2	3.365	1.366	1.094	1.154	1.192	1.230
4.5	3.658	1.504	1.209	1.274	1.316	1.357
5.0	4.149	1.736	1.404	1.478	1.524	1.571
5.5	4.641	1.972	1.602	1.684	1.736	1.788
6.0	5.135	2.210	1.802	1.892	1.950	2.007
6.5	5.629	2.449	2.005	2.103	2.166	2.228
7.0	6.124	2.690	2.208	2.315	2.384	2.450
7.5	6.620	2.932	2.414	2.529	2.602	2.674
8.0	7.117	3.175	2.620	2.743	2.822	2.899
9.0	8.110	3.664	3.035	3.175	3.264	3.351
10.0	9.106	4.154	3.453	3.609	3.708	3.805
11.0	10.102	4.647	3.872	4.044	4.154	4.261
12.0	11.098	5.140	4.294	4.482	4.602	4.718
13.0	12.096	5.635	4.716	4.920	5.050	5.177
15.0	14.091	6.626	5.563	5.799	5.950	6.096
17.0	16.088	7.619	6.412	6.680	6.851	7.017
20.0	19.084	9.112	7.689	8.005	8.206	8.407
25.0	24.079	11.603	9.822	10.218	10.470	10.714
30.0	29.075	14.097	11.958	12.433	12.736	13.039
40.0	49.071	24.086	20.516	21.309	21.814	22.303
50.0	69.068	34.081	29.081	30.193	30.900	31.583
100.0	99.066	49.077	41.934	43.522	44.532	45.508

## Appendix B

### Vertical Cutoff Rigidity Tables

The first table in this appendix gives the vertical cutoff rigidities of various locations using the Finch and Leaton geomagnetic field simulation. Also given are the geographic coordinates, the L value (in earth radii)\*, the main cone and Stormer cone cutoffs, and the width of the penumbral region (in bv). For several high-latitude stations, all trajectories below the cutoff values given in the table fail to reach a solution even after, in some cases, 32,000 iterations; therefore, these cutoff values are listed as "less than" (LT).

The second table gives similar data for 78 locations using the Jensen and Cain geomagnetic field simulation.

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\*The L values were calculated for an altitude of 20 km using the oblate earth.

# VERTICAL CUTOFF RIGIDITIES

CALCULATED USING THE FINCH AND LEATON GEOMAGNETIC FIELD

IDENTIFICATION	GEOGRAPHIC LAT. LONG.	L VALUE	P(M)	P(S)	PEN WIDTH	PC
AMBEDDAD, INDIA	23.01 72.61	1.0128	15.94	15.94	0.00	15.94 FL
ALERT, CANADA	82.50 297.67	278.0474				LT 0.05 FL
ALMA ATA, U.S.S.R.	43.20 76.94	1.5335	6.78	5.77	1.01	6.69 FL
ANITITY, U.S.S.R.	67.55 33.33	4.9604	0.68	0.63	0.05	0.64 FL
BARROLOME, ARGENTINA	-41.15 288.98	1.2818	10.35	9.47	0.88	10.02 FL
BELGRAND, ANTARCTICA	-77.97 321.20	4.5212	0.80	0.74	0.06	0.75 FL
BERGEN, NORWAY	60.40 5.32	3.6864	1.18	1.10	0.08	1.13 FL
BERKELEY, U.S.A.	37.86 237.70	1.8707	4.88	3.94	0.94	4.50 FL
BRISBANE, AUSTRALIA	-27.50 153.01	1.5091	7.75	5.60	2.15	7.00 FL
BUDAPEST, HUNGARY	47.50 18.90	1.9522	4.79	3.72	1.07	4.44 FL
BUENOS AIRES, ARGENTINA	-34.58 301.50	1.885	10.91	10.20	0.71	10.63 FL
CALGARY, CANADA	51.08 245.91	3.7058	1.17	1.07	0.10	1.09 FL
CAMBRIDGE, U.S.A.	41.38 268.88	3.0228	1.79	1.63	0.16	1.68 FL
CAPE SCHMIDT, U.S.S.R.	68.87 180.51	5.1164	0.64	0.59	0.05	0.60 FL
CHACALTAYA, BOLIVIA	-16.31 291.85	1.0508	13.10	13.10	0.00	13.10 FL
CHAMICAL, ARGENTINA	-30.33 293.75	1.1303	11.74	11.30	0.44	11.69 FL
CHICAGO, U.S.A.	41.83 272.33	2.9447	1.90	1.67	0.23	1.72 FL
CHIMO, CANADA	58.17 291.75	9.6881				LT 0.21 FL
CHURCHILL, CANADA	58.75 265.91	8.7316				LT 0.21 FL
CLIMAX, U.S.A.	39.37 253.82	2.2527	3.18	2.73	0.45	3.03 FL
COLEMAN, U.S.A.	64.85 212.16	5.3733	0.54	0.54	0.00	0.54 FL
CORDOBA, ARGENTINA	-31.40 295.82	1.1432	11.55	11.02	0.53	11.45 FL
COLUMBUS, U.S.A.	32.78 263.20	1.8777	4.55	3.80	0.75	4.35 FL
DECEPCION, ANTARCTICA	-62.48 294.28	2.1388	3.63	3.19	0.44	3.55 FL
DEEP RIVER, CANADA	46.10 282.50	3.8583	1.09	0.99	0.10	1.02 FL
DENVER, U.S.A.	39.75 255.00	2.3134	3.02	2.66	0.36	2.91 FL
DUMONT D'URVILLE, ANTARCT.	-66.67 140.02	37.4397				LT 0.05 FL
DUNSMITH, IRELAND	53.38 352.67	2.7625	2.23	1.93	0.30	2.08 FL
DURHAM, U.S.A.	43.10 269.16	3.2810	1.52	1.36	0.16	1.41 FL
ELLSWORTH, ANTARCTICA	-77.72 318.80	4.4204	0.82	0.78	0.04	0.79 FL
FREETOWN, SIERRA LEONE	8.50 346.72	1.0197	14.23	14.23	0.00	14.23 FL
FRIBURGH BAY, CANADA	63.75 291.43	15.3194				LT 0.08 FL
GOOSE BAY, CANADA	53.33 299.58	5.4898	0.52	0.52	0.00	0.52 FL
GOTTINGEN, GERMANY	51.52 9.93	2.3161	3.14	2.80	0.34	3.00 FL
HAARLEIGH, AUSTRIA	47.32 11.37	1.5635	4.69	3.84	0.85	4.37 FL
HALEAKALA, U.S.A.	20.71 203.74	1.1278	13.30	13.30	0.00	13.30 FL
HEISS ISLAND, U.S.S.R.	80.33 57.80	13.1670				LT 0.10 FL
HERMANUS, SOUTH AFRICA	-34.42 19.22	1.8290	5.13	4.14	0.99	4.90 FL
HUANCAYO, PERU	-12.03 283.12	1.0333	13.49	13.49	0.00	13.49 FL
IMUVIK, CANADA	68.35 226.27	9.2733				LT 0.18 FL
INVERCARGILL, NEW ZEAL.	-46.50 168.37	2.9046	1.57	1.77	0.20	1.86 FL
IRKUTSK, U.S.S.R.	52.27 104.30	2.0337	4.11	3.46	0.65	3.74 FL
JUNGERMANN, SWITZER.	46.55 7.98	1.9033	4.83	4.08	0.75	4.40 FL
KAMPALA, UGANDA	0.33 32.56	1.0082	14.98	14.98	0.00	14.98 FL
KERGUELEN ISLANDS	-49.35 70.22	3.6145	1.27	1.18	0.09	1.19 FL
KHARTOUM, SUDAN	15.55 32.58	0.9834	15.56	15.56	0.00	15.56 FL
KITZ, GERMANY	54.33 10.13	2.6197	2.43	2.15	0.28	2.29 FL
KILBANA, SWEDEN	67.83 20.43	5.3864	0.57	0.53	0.04	0.54 FL
KOLAKAL, INDIA	16.23 77.46	0.9260	17.47	17.47	0.00	17.47 FL

BEST AVAILABLE COPY

							B3
RONOGARI, SWEDEN	66.19	19.58	4.8337	0.74	0.67	0.07	0.69 FL
AF, NEW GUINEA	-6.73	147.00	1.0243	15.52	15.52	0.00	15.52 FL
EDS, ENGLAND	53.12	358.45	2.7300	2.28	2.11	0.17	2.20 FL
ERWICK, SCOTLAND	63.15	358.85	3.8115	1.14	1.06	0.08	1.09 FL
IMEL, FRANCE	46.73	2.41	2.1455	3.86	3.38	0.48	3.64 FL
INCULN, U.S.A.	40.82	263.32	2.6127	2.33	2.03	0.30	2.22 FL
INDAU, GERMANY	51.60	10.10	2.3223	3.21	2.77	0.44	3.00 FL
OMNICKY STIT, CZECH.	49.20	20.22	2.0559	4.27	3.55	0.72	4.00 FL
ONDUN, ENGLAND	51.53	359.91	2.4340	3.00	2.49	0.51	2.73 FL
IACQUARIE ISLANDS	-54.50	158.90	5.3607	0.58	0.53	0.05	0.55 FL
ATIENZO, ANTARCTICA	-64.97	299.95	2.2996	3.11	2.87	0.24	3.01 FL
AWSON, ANTARCTICA	-67.60	62.86	8.6687				LT 0.22 FL
CMURDU, ANTARCTICA	-77.85	166.72	32.9990				LT 0.05 FL
EXICO CITY, MEXICO	19.33	260.82	1.2807	10.09	8.94	1.15	9.53 FL
INA AGUILAR, ARGENTINA	-23.10	294.30	1.0768	12.51	12.51	0.00	12.51 FL
INNEAPOLIS, U.S.A.	44.97	266.77	3.3223	1.45	1.32	0.13	1.39 FL
INNY, ANTARCTICA	-65.55	93.00	17.1414				LT 0.05 FL
OSCUW, U.S.S.R.	55.47	37.32	2.5392	2.66	2.21	0.45	2.46 FL
T. NOKIKUKA, JAPAN	36.12	137.56	1.2450	12.15	10.16	1.99	11.39 FL
T. WASHINGTON, U.S.A.	44.30	268.70	3.4892	1.33	1.19	0.14	1.24 FL
T. WELLINGTON, AUST.	-42.92	147.24	2.8648	2.09	1.76	0.33	1.89 FL
UNICH, GERMANY	48.20	11.60	2.0383	4.43	3.67	0.76	4.14 FL
URCHISON BAY, NORWAY	80.05	18.25	16.0325				LT 0.06 FL
URMANSK, U.S.S.R.	68.97	33.08	5.4776	0.50	0.50	0.00	0.50 FL
REAR, FRANCE	48.42	2.12	2.1243	3.99	3.24	0.75	3.69 FL
YTAWA, CANADA	45.40	284.40	3.7159	1.17	1.06	0.11	1.08 FL
ULU, FINLAND	65.00	25.42	4.3447	0.88	0.79	0.09	0.81 FL
ALO ALTO, U.S.A.	37.42	237.85	1.8446	4.96	4.10	0.86	4.73 FL
IC DU MIDI, FRANCE	42.93	7.25	1.7137	5.59	4.95	0.64	5.36 FL
OINT BAKROW, U.S.A.	71.33	203.50	7.9931	0.24	0.24	0.00	0.24 FL
OSADAS, ARGENTINA	-27.37	304.03	1.1189	11.74	11.20	0.54	11.64 FL
RAGUE, CZECHOSLOVAKIA	50.07	14.43	2.1562	3.74	3.08	0.66	3.53 FL
ESOLUIE, CANADA	74.69	265.09	102.8680				LT 0.05 FL
EYKJAVIK, ICELAND	64.09	338.42	6.2912	0.42	0.40	0.02	0.41 FL
DO DE JANEIRO, BRAZIL	-22.90	316.74	1.1145	11.82	11.15	0.67	11.73 FL
DO GALLEBUS, ARGENTINA	-51.63	290.78	1.8848	7.52	6.84	1.48	7.31 FL
DMF, ITALY	41.40	12.82	1.8882	6.44	5.78	0.66	6.31 FL
ICHAMENTO PEAK, U.S.A.	32.72	284.86	1.7681	5.15	4.81	0.64	4.98 FL
MAE, ANTARCTICA	-78.46	387.81	3.8996	1.07	1.00	0.07	1.02 FL
HEPHEO BAY, CANADA	66.82	266.87	30.1753				LT 0.05 FL
OUTH POLE, ANTARCTICA	-89.98	0.	13.2888				LT 0.11 FL
ALPHUM MT., CANADA	51.28	244.39	3.6360	1.28	1.09	0.11	1.14 FL
FRULUVSK, U.S.S.R.	56.80	60.63	2.6996	2.42	2.12	0.30	2.30 FL
ARTHMON, U.S.A.	39.90	284.65	2.4237	2.01	1.76	0.25	1.92 FL
OWA, ANTARCTICA	-64.03	39.66	6.1814	0.45	0.41	0.04	0.42 FL
ILIS, U.S.S.R.	42.08	44.70	1.8823	6.09	5.84	1.05	6.67 FL
HRAN, IRAN	38.67	81.44	1.3881	16.88	8.71	2.17	10.36 FL
ULE, GREENLAND	76.85	291.88	182.8941				LT 0.04 FL
XIE BAY, U.S.S.R.	71.85	128.90	5.8120	0.55	0.51	0.04	0.53 FL
IVANURUM, INDIA	8.48	76.98	0.9843	17.44	17.44	0.00	17.44 FL
UMSO, NORWAY	69.67	18.94	6.2383	0.43	0.40	0.03	0.41 FL
CUMAN, ARGENTINA	-26.90	294.60	1.1013	12.11	11.80	0.31	12.09 FL
PSALA, SWEDEN	59.45	17.02	3.3304	1.49	1.40	0.09	1.43 FL
HUALA, ARGENTINA	-54.80	291.70	1.6762	5.82	5.19	0.63	5.68 FL
HEMT, NETHERLANDS	52.06	5.07	2.4228	2.92	2.57	0.35	2.76 FL
CTORIA, CANADA	48.50	236.54	2.8717	1.96	1.76	0.20	1.86 FL
STOK, ANTARCTICA	-78.47	106.87	75.9810				LT 0.05 FL
IKES, ANTARCTICA	-66.42	110.45	36.5135				LT 0.05 FL
KUTSK, U.S.S.R.	62.02	129.72	3.0515	1.81	1.61	0.20	1.70 FL

B4

ZUGSPITZE, GERMANY

	47.42	10.98	1.9759	4.66	3.71	0.95	4.24 FL
SOYA VOYAGE	-51.60	23.70	2.7949	2.11	1.85	0.26	2.02 FL
SOYA VOYAGE	-47.90	30.50	2.6491	2.57	2.15	0.42	2.30 FL
SOYA VOYAGE	-47.10	22.90	2.4816	2.79	2.41	0.38	2.59 FL
SOYA VOYAGE	-45.00	26.10	2.4000	2.96	2.55	0.41	2.75 FL
SOYA VOYAGE	-43.10	25.30	2.2826	3.48	2.75	0.73	3.17 FL
SOYA VOYAGE	-42.60	21.70	2.2153	3.56	3.04	0.52	3.24 FL
SOYA VOYAGE	-41.70	22.20	2.1757	3.84	3.24	0.60	3.43 FL
SOYA VOYAGE	-39.80	22.50	2.0862	4.10	3.38	0.72	3.72 FL
SOYA VOYAGE	-38.40	20.00	2.0000	4.34	3.65	0.69	4.03 FL
SOYA VOYAGE	-35.10	20.40	1.8638	4.94	4.21	0.73	4.69 FL
SOYA VOYAGE	-35.10	25.70	1.8944	4.82	4.04	0.78	4.56 FL
SOYA VOYAGE	-34.80	18.20	1.8362	5.09	4.19	0.90	4.81 FL
SOYA VOYAGE	-34.70	30.60	1.8969	4.85	3.94	0.91	4.58 FL
SOYA VOYAGE	-34.60	23.20	1.8603	4.98	4.30	0.68	4.72 FL
SOYA VOYAGE	-34.50	18.40	1.8260	5.16	4.46	0.70	4.85 FL
SOYA VOYAGE	-33.80	28.30	1.8491	5.10	4.31	0.79	4.89 FL
SOYA VOYAGE	-33.30	35.70	1.8447	5.14	4.30	0.84	4.91 FL
SOYA VOYAGE	-32.40	33.20	1.8005	5.44	4.80	0.64	5.18 FL
SOYA VOYAGE	-30.70	38.10	1.7303	6.03	5.09	0.94	5.77 FL
SOYA VOYAGE	-30.10	43.30	1.7035	6.25	5.14	1.11	5.96 FL
SOYA VOYAGE	-29.10	42.30	1.6613	6.76	5.52	1.24	6.76 FL
SOYA VOYAGE	-28.10	47.00	1.6159	7.20	5.76	1.44	6.81 FL
SOYA VOYAGE	-27.60	45.40	1.5966	7.45	5.97	1.48	7.04 F
SOYA VOYAGE	-25.50	50.70	1.5088	8.46	6.90	1.56	7.97 FL
MAGNET FLIGHTS	34.58	346.63	1.4219	9.09	7.52	1.57	8.73 FL
MAGNET FLIGHTS	33.60	346.33	1.3880	9.57	8.23	1.34	9.24 FL
MAGNET FLIGHTS	32.65	346.03	1.3573	9.97	8.70	1.27	9.62 FL
MAGNET FLIGHTS	31.40	345.65	1.3202	10.47	8.76	1.71	10.14 FL
MAGNET FLIGHTS	30.47	345.38	1.2947	10.80	9.25	1.55	10.40 FL
MAGNET FLIGHTS	29.52	347.12	1.2551	11.25	9.74	1.51	10.73 FL
1962 KC-135 FLIGHTS	35.00	229.00	1.6212	6.19	5.44	0.75	6.01 FL
1962 KC-135 FLIGHTS	35.00	231.00	1.6308	6.05	5.34	0.71	5.92 FL
1962 KC-135 FLIGHTS	33.00	225.00	1.5846	7.60	6.22	1.38	7.44 FL
1962 KC-135 FLIGHTS	33.00	227.00	1.5204	7.33	5.45	1.08	7.15 FL
1962 KC-135 FLIGHTS	31.00	219.00	1.4880	9.51	7.53	1.96	9.12 FL
1962 KC-135 FLIGHTS	31.00	221.00	1.4127	9.31	7.52	1.79	9.01 FL
1962 KC-135 FLIGHTS	31.00	223.00	1.4236	9.10	7.07	2.03	8.88 FL
1962 KC-135 FLIGHTS	29.00	216.00	1.3882	10.67	6.40	2.27	10.22 FL
1962 KC-135 FLIGHTS	29.00	217.00	1.3347	10.54	7.54	3.00	9.82 FL
1962 KC-135 FLIGHTS	29.00	219.00	1.3434	10.40	7.71	2.69	9.66 FL
1962 KC-135 FLIGHTS	29.00	221.00	1.3623	10.25	7.45	2.80	9.55 FL
1962 KC-135 FLIGHTS	27.00	211.00	1.2884	11.55	9.97	1.58	11.12 FL
1962 KC-135 FLIGHTS	27.00	213.00	1.2694	11.45	9.74	1.71	10.95 FL
1962 KC-135 FLIGHTS	27.00	215.00	1.2765	11.36	9.57	1.79	10.84 FL
1962 KC-135 FLIGHTS	25.00	207.00	1.2079	12.27	12.27	0.00	12.27 FL
1962 KC-135 FLIGHTS	25.00	209.00	1.2137	12.18	12.18	0.00	12.18 FL
1962 KC-135 FLIGHTS	25.00	211.00	1.2197	12.10	12.10	0.00	12.10 FL
1962 KC-135 FLIGHTS	23.20	205.00	1.1648	12.79	12.79	0.00	12.79 FL
1962 KC-135 FLIGHTS	23.00	207.00	1.1720	12.73	12.69	0.04	12.72 FL
1962 KC-135 FLIGHTS	19.00	201.00	1.0985	13.68	13.68	0.00	13.68 FL
1962 KC-135 FLIGHTS	17.00	199.00	1.0708	14.06	14.06	0.00	14.06 FL
1962 KC-135 FLIGHTS	17.00	201.00	1.0744	14.01	14.01	0.00	14.01 FL
1962 KC-135 FLIGHTS	15.00	199.00	1.0500	14.34	14.34	0.00	14.34 FL
1962 KC-135 FLIGHTS	13.00	197.00	1.0292	14.65	14.65	0.00	14.65 FL
1962 KC-135 FLIGHTS	13.00	199.00	1.0321	14.60	14.60	0.00	14.60 FL



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19A2	KC-135	FLIGHTS	11.00	195.00	1.0117	14.91	14.91	0.00	14.91	FL
19A2	KC-135	FLIGHTS	11.00	197.00	1.0143	14.87	14.87	0.00	14.87	FL
19A2	KC-135	FLIGHTS	9.00	195.00	0.9996	15.10	15.10	0.00	15.10	FL
19A2	KC-135	FLIGHTS	7.00	193.00	0.9881	15.29	15.29	0.00	15.29	FL
19A2	KC-135	FLIGHTS	5.00	193.00	0.9814	15.41	15.41	0.00	15.41	FL
19A2	KC-135	FLIGHTS	3.00	191.00	0.9761	15.53	15.53	0.00	15.53	FL
19A2	KC-135	FLIGHTS	3.00	193.00	0.9771	15.49	15.49	0.00	15.49	FL
19A2	KC-135	FLIGHTS	1.00	191.00	0.9748	15.57	15.57	0.00	15.57	FL
19A2	KC-135	FLIGHTS	-1.00	189.00	0.9758	15.60	15.60	0.00	15.60	FL
19A2	KC-135	FLIGHTS	-3.00	189.00	0.9805	15.56	15.56	0.00	15.56	FL
19A2	KC-135	FLIGHTS	-5.00	187.00	0.9885	15.49	15.49	0.00	15.49	FL
19A2	KC-135	FLIGHTS	-7.00	185.00	1.0009	15.36	15.36	0.00	15.36	FL
19A2	KC-135	FLIGHTS	-9.00	183.00	1.0177	15.17	15.17	0.00	15.17	FL
19A2	KC-135	FLIGHTS	-9.00	185.00	1.0154	15.17	15.17	0.00	15.17	FL
19A2	KC-135	FLIGHTS	-11.00	181.00	1.0393	14.91	14.91	0.00	14.91	FL
19A2	KC-135	FLIGHTS	-11.00	183.00	1.0362	14.92	14.92	0.00	14.92	FL
19A2	KC-135	FLIGHTS	-11.00	185.00	1.0333	14.92	14.92	0.00	14.92	FL
19A2	KC-135	FLIGHTS	-11.00	187.00	1.0305	14.92	14.92	0.00	14.92	FL
19A2	KC-135	FLIGHTS	-13.00	181.00	1.0622	14.60	14.52	0.08	14.57	FL
19A2	KC-135	FLIGHTS	-13.00	183.00	1.0583	14.61	14.53	0.08	14.59	FL
19A2	KC-135	FLIGHTS	-13.00	185.00	1.0547	14.62	14.54	0.08	14.60	FL
19A2	KC-135	FLIGHTS	-13.00	187.00	1.0512	14.63	14.55	0.08	14.62	FL
19A2	KC-135	FLIGHTS	-15.00	179.00	1.0937	14.18	14.12	0.06	14.15	FL
19A2	KC-135	FLIGHTS	-15.00	181.00	1.0889	14.22	14.14	0.08	14.18	FL
19A2	KC-135	FLIGHTS	-15.00	183.00	1.0842	14.25	14.16	0.09	14.22	FL
19A2	KC-135	FLIGHTS	-15.00	185.00	1.0797	14.27	14.18	0.09	14.23	FL
19A2	KC-135	FLIGHTS	-17.00	177.00	1.1308	13.63	13.63	0.00	13.63	FL
19A2	KC-135	FLIGHTS	-17.00	179.00	1.1250	13.66	13.66	0.00	13.66	FL
19A2	KC-135	FLIGHTS	-17.00	181.00	1.1194	13.73	13.70	0.08	13.73	FL
19A4	KC-135	FLIGHTS	-43.00	297.00	1.3207	9.78	8.68	1.10	9.24	FL
19A4	KC-135	FLIGHTS	-43.00	299.00	1.3233	9.68	8.58	1.10	9.09	FL
19A4	KC-135	FLIGHTS	-43.00	301.00	1.3269	9.59	8.46	1.13	8.94	FL
19A4	KC-135	FLIGHTS	-45.00	295.00	1.3631	9.44	8.17	1.27	8.88	FL
19A4	KC-135	FLIGHTS	-45.00	297.00	1.3646	9.36	8.09	1.27	8.74	FL
19A4	KC-135	FLIGHTS	-45.00	299.00	1.3672	9.28	7.98	1.30	8.62	FL
19A4	KC-135	FLIGHTS	-47.00	295.00	1.4126	9.00	7.58	1.42	8.66	FL
19A4	KC-135	FLIGHTS	-47.00	297.00	1.4101	8.90	7.44	1.46	8.59	FL
19A4	KC-135	FLIGHTS	-47.00	299.00	1.4166	8.82	7.47	1.35	8.42	FL
19A4	KC-135	FLIGHTS	-49.00	295.00	1.4681	8.46	7.26	1.22	8.20	FL
19A4	KC-135	FLIGHTS	-49.00	297.00	1.4683	8.42	6.98	1.42	8.14	FL
19A4	KC-135	FLIGHTS	-49.00	299.00	1.4695	8.36	7.13	1.23	8.11	FL
19A4	KC-135	FLIGHTS	-49.00	299.00	1.4710	8.30	7.06	1.24	8.02	FL
19A4	KC-135	FLIGHTS	-51.00	295.00	1.5312	7.75	6.11	1.66	7.54	FL
19A4	KC-135	FLIGHTS	-51.00	297.00	1.5310	7.71	6.34	1.37	7.52	FL
19A4	KC-135	FLIGHTS	-51.00	297.00	1.5319	7.67	6.50	1.17	7.49	FL
19A4	KC-135	FLIGHTS	-53.00	295.00	1.6043	6.79	5.31	1.48	6.57	FL
19A4	KC-135	FLIGHTS	-53.00	297.00	1.6025	6.75	5.22	1.26	6.55	FL
19A4	KC-135	FLIGHTS	-53.00	299.00	1.6020	6.73	5.59	1.16	6.54	FL
19A4	KC-135	FLIGHTS	-53.00	297.00	1.6020	6.67	5.22	1.15	6.44	FL
19A4	KC-135	FLIGHTS	-55.00	295.00	1.6687	5.73	4.98	0.75	5.57	FL
19A4	KC-135	FLIGHTS	-55.00	297.00	1.6635	5.75	5.00	0.75	5.57	FL
19A4	KC-135	FLIGHTS	-55.00	299.00	1.6626	5.72	5.10	0.62	5.60	FL
19A4	KC-135	FLIGHTS	-55.00	297.00	1.6621	5.70	4.93	0.77	5.52	FL
19A4	KC-135	FLIGHTS	-57.00	291.00	1.7786	5.13	4.51	0.62	5.05	FL
19A4	KC-135	FLIGHTS	-57.00	293.00	1.7758	5.13	4.55	0.58	5.07	FL
19A4	KC-135	FLIGHTS	-57.00	295.00	1.7744	5.13	4.54	0.59	4.99	FL
19A4	KC-135	FLIGHTS	-57.00	297.00	1.7746	5.10	4.36	0.54	5.00	FL
19A4	KC-135	FLIGHTS	-59.00	289.00	1.8498	4.70	4.16	0.54	4.55	FL

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1964	KC-135	FLIGHTS	-59.00	291.00	1.8349	4.72	4.22 0.50	4.55 FL
1964	KC-135	FLIGHTS	-59.00	293.00	1.8316	4.72	4.14 0.58	4.57 FL
1964	KC-135	FLIGHTS	-59.00	295.00	1.8298	4.71	4.19 0.52	4.53 FL
1964	KC-135	FLIGHTS	-61.00	289.00	2.0128	4.32	3.67 0.65	4.03 FL
1964	KC-135	FLIGHTS	-61.00	291.00	2.0071	4.33	3.53 0.80	4.11 FL
1964	KC-135	FLIGHTS	-61.00	293.00	2.0031	4.33	3.51 0.82	4.08 FL
1964	KC-135	FLIGHTS	-61.00	295.00	2.0007	4.33	3.52 0.81	4.05 FL
1964	KC-135	FLIGHTS	-63.00	287.00	2.1634	3.66	3.07 0.59	3.44 FL
1964	KC-135	FLIGHTS	-63.00	289.00	2.1552	3.71	3.26 0.45	3.54 FL
1964	KC-135	FLIGHTS	-63.00	291.00	2.1487	3.74	3.14 0.60	3.49 FL
1964	KC-135	FLIGHTS	-63.00	293.00	2.1440	3.77	3.11 0.66	3.58 FL
1964	KC-135	FLIGHTS	-65.00	287.00	2.3299	3.04	2.72 0.36	2.49 FL
1964	KC-135	FLIGHTS	-65.00	289.00	2.3204	3.04	2.73 0.31	2.46 FL
1964	KC-135	FLIGHTS	-65.00	291.00	2.3128	3.10	2.74 0.36	2.91 FL
1964	KC-135	FLIGHTS	-67.00	285.00	2.5378	2.70	2.30 0.40	2.46 FL
1964	KC-135	FLIGHTS	-67.00	287.00	2.5250	2.62	2.35 0.27	2.55 FL
1964	KC-135	FLIGHTS	-67.00	289.00	2.5143	2.65	2.35 0.30	2.57 FL
1964	KC-135	FLIGHTS	-67.00	291.00	2.5055	2.77	2.38 0.39	2.62 FL
1964	KC-135	FLIGHTS	-69.00	281.00	2.8058	2.18	1.87 0.31	2.02 FL
1964	KC-135	FLIGHTS	-69.00	283.00	2.7854	2.20	1.87 0.33	2.04 FL
1964	KC-135	FLIGHTS	-69.00	285.00	2.7591	2.16	1.90 0.26	2.05 FL
1964	KC-135	FLIGHTS	-69.00	287.00	2.7550	2.23	1.95 0.28	2.06 FL
1964	KC-135	FLIGHTS	-69.00	289.00	2.7426	2.24	2.00 0.24	2.12 FL
1964	KC-135	FLIGHTS	-71.00	277.00	3.1352	1.69	1.52 0.17	1.60 FL
1964	KC-135	FLIGHTS	-71.00	279.00	3.1085	1.72	1.48 0.24	1.62 FL
1964	KC-135	FLIGHTS	-71.00	281.00	3.0844	1.74	1.53 0.21	1.62 FL
1964	KC-135	FLIGHTS	-71.00	283.00	3.0628	1.77	1.61 0.16	1.67 FL
1964	KC-135	FLIGHTS	-71.00	285.00	3.0437	1.76	1.61 0.15	1.69 FL
1964	KC-135	FLIGHTS	-71.00	287.00	3.0269	1.80	1.57 0.23	1.69 FL
1964	KC-135	FLIGHTS	-73.00	277.00	3.4743	1.37	1.22 0.15	1.30 FL
1964	KC-135	FLIGHTS	-73.00	279.00	3.4442	1.45	1.29 0.16	1.35 FL
1964	KC-135	FLIGHTS	-73.00	281.00	3.4170	1.43	1.25 0.18	1.36 FL
1964	KC-135	FLIGHTS	-73.00	283.00	3.3926	1.45	1.27 0.18	1.35 FL
1964	KC-135	FLIGHTS	-73.00	285.00	3.3710	1.49	1.30 0.19	1.37 FL
INDIAN OCEAN			-5.00	69.00	1.0099	15.52	15.52 0.00	15.52 FL
INDIAN OCEAN			-6.00	69.00	1.0217	15.30	15.30 0.00	15.30 FL
INDIAN OCEAN			-7.00	69.00	1.0346	15.06	15.06 0.00	15.06 FL
INDIAN OCEAN			-8.00	69.00	1.0482	14.82	14.82 0.00	14.82 FL
INDIAN OCEAN			-9.00	69.00	1.0634	14.56	14.56 0.00	14.56 FL
INDIAN OCEAN			-10.00	69.00	1.0793	14.29	14.29 0.00	14.29 FL
INDIAN OCEAN			-11.00	69.00	1.0963	14.01	14.01 0.00	14.01 FL
EQUATOR STUDIES			3.00	190.00	0.9756	15.55	15.55 0.00	15.55 FL
EQUATOR STUDIES			2.00	190.00	0.9747	15.57	15.57 0.00	15.57 FL
EQUATOR STUDIES			1.00	190.00	0.9744	15.59	15.59 0.00	15.59 FL
EQUATOR STUDIES			0.	190.00	0.9749	15.59	15.59 0.00	15.59 FL
EQUATOR STUDIES			-1.00	190.00	0.9759	15.59	15.59 0.00	15.59 FL
EQUATOR STUDIES			-2.00	190.00	0.9777	15.57	15.57 0.00	15.57 FL
EQUATOR STUDIES			-3.00	190.00	0.9804	15.54	15.54 0.00	15.54 FL
EQUATOR STUDIES			-4.00	190.00	0.9834	15.51	15.51 0.00	15.51 FL
EQUATOR STUDIES			-5.00	190.00	0.9874	15.46	15.46 0.00	15.46 FL
EQUATOR STUDIES			-6.00	200.00	1.0407	13.56	13.56 0.00	13.56 FL
EQUATOR STUDIES			-6.00	200.00	1.0371	13.58	13.58 0.00	13.58 FL
EQUATOR STUDIES			-7.00	200.00	1.0341	13.60	13.60 0.00	13.60 FL
EQUATOR STUDIES			-8.00	200.00	1.0316	13.61	13.61 0.00	13.61 FL
EQUATOR STUDIES			-9.00	200.00	1.0300	13.61	13.61 0.00	13.61 FL
EQUATOR STUDIES			-10.00	200.00	1.0285	13.61	13.61 0.00	13.61 FL
EQUATOR STUDIES			-11.00	200.00	1.0281	13.59	13.59 0.00	13.59 FL

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EQUATOR STUDIES	-12.00	280.00	1.0281	13.57	13.57	0.00	13.57 FL
EQUATOR STUDIES	-13.00	280.00	1.0287	13.54	13.54	0.00	13.54 FL
EQUATOR STUDIES	-14.00	280.00	1.0299	13.50	13.50	0.00	13.50 FL
EQUATOR STUDIES	-15.00	280.00	1.0317	13.46	13.46	0.00	13.46 FL
EQUATOR STUDIES	-5.00	291.00	1.0719	13.34	13.34	0.00	13.34 FL
EQUATOR STUDIES	-6.00	291.00	1.0665	13.36	13.36	0.00	13.36 FL
EQUATOR STUDIES	-7.00	291.00	1.0621	13.38	13.38	0.00	13.38 FL
EQUATOR STUDIES	-8.00	291.00	1.0580	13.39	13.39	0.00	13.39 FL
EQUATOR STUDIES	-9.00	291.00	1.0548	13.39	13.39	0.00	13.39 FL
EQUATOR STUDIES	-10.00	291.00	1.0522	13.37	13.37	0.00	13.37 FL
EQUATOR STUDIES	-11.00	291.00	1.0502	13.35	13.35	0.00	13.35 FL
EQUATOR STUDIES	6.00	320.00	1.1067	13.44	13.44	0.00	13.44 FL
EQUATOR STUDIES	5.00	320.00	1.0993	13.49	13.49	0.00	13.49 FL
EQUATOR STUDIES	4.00	320.00	1.0926	13.52	13.52	0.00	13.52 FL
EQUATOR STUDIES	3.00	320.00	1.0867	13.55	13.55	0.00	13.55 FL
EQUATOR STUDIES	2.00	320.00	1.0812	13.57	13.57	0.00	13.57 FL
EQUATOR STUDIES	1.00	320.00	1.0766	13.57	13.57	0.00	13.57 FL
EQUATOR STUDIES	0.	320.00	1.0724	13.57	13.57	0.00	13.57 FL
EQUATOR STUDIES	-1.00	320.00	1.0690	13.56	13.56	0.00	13.56 FL
EQUATOR STUDIES	-2.00	320.00	1.0660	13.54	13.54	0.00	13.54 FL
EQUATOR STUDIES	-3.00	320.00	1.0638	13.52	13.52	0.00	13.52 FL
EQUATOR STUDIES	-4.00	320.00	1.0620	13.48	13.48	0.00	13.48 FL
EQUATOR STUDIES	-5.00	320.00	1.0607	13.44	13.44	0.00	13.44 FL
MISCELLANEOUS POINT	60.15	338.04	4.7739	0.74	0.69	0.05	0.71 FL
MISCELLANEOUS POINT	59.85	19.92	3.3014	1.55	1.37	0.18	1.45 FL
MISCELLANEOUS POINT	51.08	114.09	1.9205	4.80	3.73	1.07	4.25 FL
MISCELLANEOUS POINT	47.42	109.80	1.6921	5.89	4.70	1.19	5.54 FL
MISCELLANEOUS POINT	41.90	16.13	1.5736	6.54	5.85	0.69	6.36 FL
MISCELLANEOUS POINT	41.90	161.30	1.4508	8.88	6.86	2.02	8.40 FL
MISCELLANEOUS POINT	41.38	319.25	2.3392	3.17	2.82	0.35	3.03 FL
MISCELLANEOUS POINT	32.78	268.93	1.9545	4.12	3.46	0.66	3.97 FL
MISCELLANEOUS POINT	32.60	346.03	1.3556	10.01	8.72	1.29	9.66 FL
MISCELLANEOUS POINT	22.90	316.78	1.4283	10.34	7.95	2.69	9.64 FL
MISCELLANEOUS POINT	15.71	164.07	0.9992	15.29	15.29	0.00	15.29 FL
MISCELLANEOUS POINT	15.00	0.	1.0115	14.51	14.51	0.00	14.51 FL
MISCELLANEOUS POINT	15.00	270.00	1.2315	10.29	9.77	0.52	9.79 FL
MISCELLANEOUS POINT	5.71	316.78	1.1896	13.33	13.33	0.00	13.33 FL
MISCELLANEOUS POINT	5.00	388.00	1.1723	13.01	13.01	0.00	13.01 FL
MISCELLANEOUS POINT	3.87	380.00	1.0916	13.53	13.53	0.00	13.53 FL
MISCELLANEOUS POINT	0.	0.	1.0341	14.03	14.03	0.00	14.03 FL
MISCELLANEOUS POINT	0.	15.00	1.0278	14.37	14.37	0.00	14.37 FL
MISCELLANEOUS POINT	0.	105.00	0.9477	17.01	17.01	0.00	17.01 FL
MISCELLANEOUS POINT	0.	120.00	0.9506	16.89	16.82	0.00	16.82 FL
MISCELLANEOUS POINT	0.	120.00	0.9488	16.49	16.49	0.00	16.49 FL
MISCELLANEOUS POINT	0.	205.00	0.8915	14.95	14.95	0.00	14.95 FL
MISCELLANEOUS POINT	0.	205.00	1.0079	13.15	13.15	0.00	13.15 FL
MISCELLANEOUS POINT	0.	245.00	1.0207	13.84	13.84	0.00	13.84 FL
MISCELLANEOUS POINT	-15.00	300.00	1.0623	13.02	13.02	0.00	13.02 FL
MISCELLANEOUS POINT	-15.00	320.00	1.0604	12.36	11.74	0.62	12.33 FL
MISCELLANEOUS POINT	-23.16	294.30	1.0771	12.50	12.50	0.00	12.50 FL
MISCELLANEOUS POINT	-25.00	315.00	1.1287	11.01	10.92	0.09	11.45 FL
MISCELLANEOUS POINT	-30.00	14.43	1.6398	6.86	5.38	1.48	6.31 FL
MISCELLANEOUS POINT	-30.00	315.00	1.1733	10.93	10.12	0.81	10.62 FL
MISCELLANEOUS POINT	-34.40	20.36	1.0355	5.11	4.29	0.82	4.86 FL
MISCELLANEOUS POINT	-45.00	300.00	1.2608	9.24	7.97	1.27	8.60 FL
MISCELLANEOUS POINT	-45.00	320.00	1.5515	6.82	5.81	1.01	6.54 FL
MISCELLANEOUS POINT	-60.00	205.00	1.9845	4.50	4.07	0.43	4.26 FL
MISCELLANEOUS POINT	-60.00	210.00	3.5357	1.35	1.20	0.15	1.24 FL

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MISCELLANEOUS POINT	-60.00	345.00	2.4412	2.76	2.38	0.30	2.50	PL
MISCELLANEOUS POINT	-64.97	300.41	2.3000	3.11	2.81	0.30	2.94	PL
MISCELLANEOUS POINT	-66.25	110.52	35.2483				LT	0.05
MISCELLANEOUS POINT	-67.55	62.88	8.6414				LT	0.23
MISCELLANEOUS POINT	-75.00	0.	4.8962	0.64	0.64	0.50		0.64
MISCELLANEOUS POINT	-75.00	270.00	4.0271	0.97	0.91	0.06		0.94

## VERTICAL CUTOFF PLGINITIES

CALCULATED USING THE JENSEN AND CAIN GEOMAGNETIC FIELD

IDENTIFICATION	GEORGAPHIC LAT. LONG.	L VALUE	P(M)	P(S)	PEN WIDTH	PC
AMMEDIABAD, INDIA	23.01 72.61	1.0095	16.00	16.00	0.00	16.00 JC
APATITY, U.S.S.R.	67.55 33.33	5.0406	0.60	0.60	0.00	0.60 JC
BUENOS AIRES, ARGENTINA	-34.54 301.50	1.2031	10.64	9.92	0.76	10.36 JC
CALGARY, CANADA	51.04 245.91	3.7055	1.17	1.05	0.12	1.10 JC
CAMBRIDGE, U.S.A.	41.34 288.86	2.9645	1.84	1.63	0.21	1.68 JC
CAPE SCHMIT, U.S.S.P.	64.87 110.51	5.1794	0.62	0.58	0.04	0.59 JC
CHACALAYA, BOLIVIA	-16.31 291.45	1.0547	12.94	12.94	0.00	12.94 JC
CHICAGO, U.S.A.	41.83 272.33	2.9134	1.86	1.64	0.22	1.74 JC
CHURCHILL, CANADA	58.75 265.91	6.6451				LT 0.21 JC
CLIMAX, U.S.A.	39.37 253.42	2.2454	3.17	2.88	0.29	3.06 JC
DALLAS, U.S.A.	32.78 263.20	1.8649	4.57	4.07	0.50	4.30 JC
DEEP RIVER, CANADA	46.10 282.50	3.7913	1.04	1.02	0.06	1.04 JC
DENVER, U.S.A.	39.75 255.00	2.3052	3.06	2.67	0.39	2.90 JC
DURHAM, U.S.A.	43.10 289.16	3.2166	1.56	1.40	0.16	1.44 JC
ELLSWORTH, ANTARCTICA	-77.72 311.88	4.5164	0.80	0.73	0.07	0.75 JC
GOOSE BAY, CANADA	53.33 291.58	5.3579	0.54	0.54	0.00	0.54 JC
HALEAKALA, U.S.A.	20.71 203.74	1.1343	13.07	13.07	0.00	13.07 JC
HUANCAYO, PERU	-12.03 283.12	1.0343	13.36	13.36	0.00	13.36 JC
INVERCARGILL, NEW ZEAL.	-46.50 168.37	2.4957	1.94	1.76	0.22	1.85 JC
KAMPALA, UGANDA	0.33 32.56	1.0092	14.99	14.99	0.00	14.99 JC
KENGUELEN ISLANDS	-49.35 70.22	3.6446	1.23	1.10	0.13	1.14 JC
KIFL, GERMANY	54.33 10.13	2.6066	2.54	2.17	0.37	2.33 JC
KIRUNA, SWEDEN	67.83 21.43	5.4444	0.53	0.51	0.02	0.52 JC
LAF, NEW GUINEA	-6.73 147.00	1.0246	15.40	15.40	0.00	15.40 JC
LEFDS, ENGLAND	53.62 354.45	2.7143	2.35	2.06	0.29	2.23 JC
LERWICK, SCOTLAND	60.15 363.85	3.8030	1.17	1.05	0.12	1.09 JC
LONDON, ENGLAND	51.53 359.91	2.4244	3.01	2.64	0.37	2.43 JC
MACQUARIE ISLANDS	-54.60 154.90	5.3249	0.55	0.55	0.00	0.55 JC
MEXICO CITY, MEXICO	19.33 260.82	1.2749	10.08	8.98	1.10	9.44 JC
MINA AGUILAR, ARGENTINA	-23.10 294.30	1.0847	12.34	12.02	0.28	12.28 JC
MINNEAPOLIS, U.S.A.	44.97 268.77	2.2916	1.47	1.35	0.12	1.40 JC
MOSCOW, U.S.S.R.	56.47 37.32	2.8447	2.44	2.19	0.30	2.40 JC
MT. NORTAURA, JAPAN	36.12 137.54	1.2440	12.07	10.13	1.94	11.46 JC
MT. WASHINGTON, U.S.A.	44.30 288.70	3.6203	1.34	1.27	0.12	1.30 JC
MT. WELLINGTON, AUSTR.	-42.48 147.84	2.4446	2.02	1.82	0.20	1.85 JC
OTTAWA, CANADA	45.40 288.40	3.6446	1.23	1.08	0.14	1.12 JC
OUU, FINLAND	66.40 25.42	4.3443	0.84	0.81	0.03	0.83 JC
RIO DE JANEIRO, BRAZIL	-22.90 235.70	1.1340	11.89	10.88	0.71	11.45 JC
SACRAMENTO PLAK, U.S.A.	34.72 288.86	1.7440	5.14	4.58	0.56	5.02 JC
SANAL, ANTARCTICA	-78.44 267.51	3.4446	1.04	0.93	0.11	0.98 JC
SOUTH POLE, ANTARCTICA	-89.95 0.00	12.5447				LT 0.10 JC
SUN PHU MT., CANADA	51.22 244.30	3.0244	1.25	1.09	0.16	1.15 JC
SVFRULOVKA, U.S.S.R.	54.80 68.63	2.4242	2.36	2.10	0.26	2.24 JC
SWARTHMORE, U.S.A.	39.90 269.86	2.7740	2.04	1.85	0.24	1.94 JC
TIXIE BAY, U.S.S.R.	71.55 128.40	5.8632	0.54	0.49	0.05	0.50 JC
TRIVANURUM, INDIA	4.42 76.96	0.9244	17.40	17.40	0.00	17.40 JC
UPPSALA, SWEDEN	59.45 17.92	3.3339	1.49	1.34	0.15	1.42 JC
UTRECHT, NETHERLANDS	52.04 5.07	2.4131	3.04	2.67	0.37	2.43 JC
VICTORIA, CANADA	48.50 236.50	2.8747	2.00	1.74	0.26	1.85 JC

B10							
YAKUTSK, U.S.S.R.	62.02	129.72	3.07A2	1.77	1.59	0.18	1.64
SOYA VOYAGE	-39.60	22.50	2.1152	3.99	3.30	0.69	3.61
SOYA VOYAGE	-34.60	23.20	1.8840	4.84	4.29	0.55	4.62
EQUATOR STUDIES	3.00	190.00	0.97A1	15.45	15.45	0.00	15.45
EQUATOR STUDIES	2.00	190.00	0.97A8	15.48	15.48	0.00	15.48
EQUATOR STUDIES	1.00	190.00	0.97A1	15.51	15.51	0.00	15.51
EQUATOR STUDIES	0.00	190.00	0.97A0	15.52	15.52	0.00	15.52
EQUATOR STUDIES	-1.00	190.00	0.97A6	15.53	15.53	0.00	15.53
EQUATOR STUDIES	-2.00	190.00	0.9779	15.52	15.52	0.00	15.52
EQUATOR STUDIES	-3.00	190.00	0.9802	15.51	15.51	0.00	15.51
EQUATOR STUDIES	-4.00	190.00	0.9826	15.48	15.48	0.00	15.48
EQUATOR STUDIES	-5.00	190.00	0.9862	15.44	15.44	0.00	15.44
MISCELLANEOUS POINT	32.78	268.93	1.9416	4.19	3.66	0.53	4.01
MISCELLANEOUS POINT	15.00	0.00	1.0127	14.54	14.54	0.00	14.54
MISCELLANEOUS POINT	15.00	270.00	1.2274	10.37	9.78	0.59	9.85
MISCELLANEOUS POINT	0.00	0.00	1.0314	14.05	14.05	0.00	14.05
MISCELLANEOUS POINT	0.00	15.00	1.0305	14.35	14.35	0.00	14.35
MISCELLANEOUS POINT	0.00	105.00	0.9494	16.92	16.92	0.00	16.92
MISCELLANEOUS POINT	0.00	120.00	0.9495	16.74	16.74	0.00	16.74
MISCELLANEOUS POINT	0.00	135.00	0.9617	16.40	16.40	0.00	16.40
MISCELLANEOUS POINT	0.00	225.00	0.9967	14.80	14.80	0.00	14.80
MISCELLANEOUS POINT	0.00	285.00	1.08A7	13.14	13.14	0.00	13.14
MISCELLANEOUS POINT	0.00	345.00	1.0324	13.85	13.85	0.00	13.85
MISCELLANEOUS POINT	-15.00	300.00	1.0708	12.66	12.66	0.00	12.66
MISCELLANEOUS POINT	-15.00	330.00	1.1046	12.23	11.56	0.67	12.19
MISCELLANEOUS POINT	-23.16	294.30	1.0871	12.30	12.25	0.05	12.25
MISCELLANEOUS POINT	-30.00	315.00	1.1979	10.69	9.81	0.88	10.32
MISCELLANEOUS POINT	-45.00	300.00	1.3850	9.03	7.53	1.50	8.37
MISCELLANEOUS POINT	-45.00	330.00	1.4827	6.54	5.35	1.19	6.75
MISCELLANEOUS POINT	-60.00	285.00	1.4845	4.38	3.56	0.82	4.14
MISCELLANEOUS POINT	-60.00	210.00	3.56A7	1.28	1.18	0.10	1.21
MISCELLANEOUS POINT	-60.00	345.00	2.47A1	2.63	2.35	0.28	2.50
MISCELLANEOUS POINT	-75.00	0.00	4.96A3	0.66	0.61	0.05	0.63
MISCELLANEOUS POINT	-75.00	270.00	4.1257	0.96	0.86	0.10	0.89

## Appendix C

### Asymptotic Direction Tables

The following tables give the asymptotic directions of approach as a function of rigidity for the geophysical stations listed in Appendix B as well as for the SOYA and Project Magnet locations. The results obtained by using the Finch and Leaton geomagnetic field are given followed by the results using the Jensen and Cain coefficients.

The asymptotic latitude is given as positive to the north; the asymptotic longitude is measured eastward from the Greenwich Meridian. Negative longitudes for stations between 180 degrees and 360 degrees east indicate that the particle has not crossed the Greenwich Meridian. The size of the iterative step corresponds to the value of LSTEP found in McCracken et al (1962) with step size 10 being the largest step used. The number of iterative steps required to reach a solution is also given as a function of rigidity.

C2

## AHMEDABAD, INDIA

GEOGRAPHIC LATITUDE = 23.01 N

GEOGRAPHIC LONGITUDE = 72.61 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-9.91	188.17	131	10	15.86	P	R	1331	1
19.00	-10.13	200.58	138	10	15.85	R	R	1303	1
18.00	-8.17	217.95	148	10	15.84	R	R	1280	1
17.00	-1.76	246.30	167	10	15.83	R	R	1259	1
16.90	-.61	250.47	170	10	15.82	R	R	1241	1
16.80	.14	255.10	174	10	15.81	R	R	1223	1
16.70	1.09	260.30	178	10	15.80	R	R	1208	1
16.60	1.94	266.24	183	10	15.79	R	R	1193	1
16.50	2.58	273.15	189	10	15.78	R	R	1180	1
16.40	2.77	281.41	196	10	15.77	R	R	1167	1
16.30	2.04	291.65	205	10	15.76	R	R	1155	1
16.20	-.29	305.04	217	10	15.75	R	R	1144	1
16.10	-6.11	324.63	235	10	15.74	R	R	1134	1
16.09	-6.99	327.23	1496	1	15.73	R	R	1124	1
16.08	-7.93	330.01	1515	1	15.68	R	R	1080	1
16.07	-8.92	333.00	1532	1	15.63	R	R	1043	1
16.06	-9.98	336.26	1551	1	15.58	R	R	1012	1
16.05	-11.08	339.81	1572	1	15.53	R	R	983	1
16.04	-12.22	343.73	1595	1	15.48	R	R	957	1
16.03	-13.37	348.11	1621	1	15.43	R	R	932	1
16.02	-14.48	353.04	1649	1	15.38	R	R	909	1
16.01	-15.45	358.69	1682	1	15.33	R	R	887	1
16.00	-16.15	365.21	1720	1	15.28	R	R	867	1
15.99	-16.29	373.01	1765	1	15.23	R	R	848	1
15.98	-15.38	382.34	1820	1	15.18	R	R	830	1
15.97	-12.44	393.82	1891	1	15.13	R	R	813	1
15.96	-8.42	408.46	1989	1	15.08	R	R	797	1
15.95	10.43	430.08	2147	1	15.03	R	R	783	1
15.94	16.43	509.61	2621	1	15.00	R	R	118	10
15.93	N	R	1684	1	14.98	R	R	769	1
15.92	N	R	1693	1	14.93	R	R	756	1
15.91	N	R	1721	1	14.88	R	R	744	1
15.90	N	N	1784	1	14.83	R	R	732	1
15.89	N	N	1845	1	14.78	R	R	721	1
15.88	N	R	1894	1	14.73	R	R	711	1
15.87	N	R	1942	1	14.68	R	R	701	1



## ALERT, CANADA

GEOGRAPHIC LATITUDE = 82.50 N

GEOGRAPHIC LONGITUDE = 297.67 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	84.15	-22.12	102	10	1.50	83.04	11.11	772	1
19.00	83.97	-21.37	102	10	1.40	82.67	14.91	789	1
18.00	83.77	-20.87	102	10	1.30	82.75	13.82	808	1
17.00	83.56	-20.66	102	10	1.20	82.34	17.15	831	1
16.00	83.34	-20.80	102	10	1.10	82.45	19.20	861	1
15.00	83.13	-21.32	102	10	1.00	82.30	19.80	898	1
14.00	82.94	-22.27	102	10	0.90	82.06	21.82	946	1
13.00	82.79	-23.66	144	9	0.80	81.63	24.78	1009	1
12.00	82.74	-25.46	144	9	0.70	81.40	25.54	1094	1
11.00	82.82	-27.50	189	8	0.60	80.97	28.64	1214	1
10.00	83.09	-29.32	230	7	0.50	80.39	31.16	1391	1
9.00	83.58	-29.80	230	7	0.40	79.60	32.79	1667	1
8.00	84.18	-26.58	272	6	0.30	78.54	36.09	2146	1
7.00	84.42	-17.82	326	5	0.20	76.98	38.10	3134	1
6.00	83.76	-10.88	327	5	0.10	74.27	39.77	6163	1
5.00	83.29	-14.50	450	4	0.09	73.84	39.66	6440	1
4.00	84.14	-7.70	519	3	0.08	73.46	39.67	7688	1
3.00	83.70	-5.53	529	3	0.07	72.91	39.43	8779	1
2.00	83.09	7.79	613	2	0.06	72.40	39.21	10234	1
1.90	82.99	6.01	619	2	0.05	71.76	38.50	12274	1
1.80	83.29	6.86	626	2	0.04	F	F	15001	1
1.70	83.16	11.25	634	2	0.03	F	F	15001	1
1.60	82.75	10.69	643	2	0.02	F	F	15001	1
					0.01	F	F	15001	1

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ALMA ATA, U.S.S.R.

GEOGRAPHIC LATITUDE = 43.20 N

GEOGRAPHIC LONGITUDE = 76.94 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-2.27	157.72	112	10	6.83	12.16	517.04	4491	1
19.00	-3.03	159.88	112	10	6.82	4.10	368.17	2350	1
18.00	-5.23	142.41	114	10	6.81	8.65	385.89	2427	1
17.00	-8.92	145.40	115	10	6.80	5.42	494.06	4077	1
16.00	-11.89	149.02	117	10	6.79	-5.27	467.63	4329	1
15.00	-14.64	153.49	119	10	6.78	7.61	372.03	2687	1
14.00	-16.84	159.07	122	10	6.77	R	R	1527	1
13.00	-17.98	165.97	176	9	6.76	R	R	1481	1
12.00	-17.37	174.33	181	9	6.75	R	R	1446	1
11.00	-14.26	184.12	242	8	6.74	R	R	1416	1
10.00	-8.35	195.57	305	7	6.73	R	R	1390	1
9.00	-2.20	210.47	320	7	6.72	R	R	1366	1
8.00	7.50	236.63	409	6	6.71	R	R	1347	1
7.90	7.94	240.80	414	6	6.70	R	R	1328	1
7.80	8.19	245.50	420	6	6.69	R	R	1312	1
7.70	8.17	250.87	427	6	6.68	R	R	1298	1
7.60	7.73	257.11	435	6	6.67	R	R	1285	1
7.50	6.65	264.47	533	5	6.66	R	R	1275	1
7.40	4.51	273.44	549	5	6.65	R	R	1265	1
7.30	.57	284.83	570	5	6.64	R	R	1257	1
7.20	-6.50	300.73	1222	1	6.63	R	R	1249	1
7.10	-7.54	302.70	1230	1	6.62	R	R	1243	1
7.18	-8.57	304.91	1239	1	6.61	R	R	1237	1
7.17	-9.60	307.20	1240	1	6.60	R	R	1231	1
7.10	-10.81	309.65	1258	1	6.59	R	R	1226	1
7.15	-12.02	312.20	1269	1	6.58	R	R	1222	1
7.14	-13.29	315.13	1280	1	6.57	R	R	1218	1
7.13	-14.61	318.24	1293	1	6.56	R	R	1214	1
7.12	-15.97	321.40	1306	1	6.55	R	R	1211	1
7.11	-17.34	325.47	1321	1	6.54	R	R	1208	1
7.10	-18.70	329.74	1341	1	6.53	R	R	1206	1
7.09	-19.98	334.50	1356	1	6.52	R	R	1204	1
7.08	-21.09	340.16	1370	1	6.51	R	R	1203	1
7.07	-21.85	346.60	1402	1	6.50	R	R	1202	1
7.06	-21.94	354.32	1431	1	6.49	R	R	1203	1
7.05	-21.00	363.44	1466	1	6.48	R	R	1205	1
7.04	-17.97	374.42	1510	1	6.47	R	R	1206	1
7.03	-11.10	387.92	1573	1	6.46	R	R	1211	1
7.02	3.89	406.31	1677	1	6.45	R	R	1217	1
7.01	29.90	438.45	1915	1	6.44	R	R	1232	1
7.00	18.78	440.25	2099	5	6.43	R	R	1485	1
6.90	2.20	308.97	1019	5	6.42	9.39	485.41	3867	1
6.89	-6.83	359.60	2071	1	6.41	12.79	491.13	4627	1
6.88	-6.42	373.72	2125	1	6.40	14.71	525.57	5151	1
6.87	26.48	447.80	2458	1	6.39	-8.40	557.33	4625	1
6.86	11.32	461.30	3074	1	6.38	-14.15	552.02	4594	1
6.85	-8.35	505.82	4997	1	6.37	-14.39	618.04	5467	1
6.84	-5.46	1051.90	9888	1	6.36	R	R	2388	1

ALMA ATA, U.S.S.R. (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 43.20 N

GEOGRAPHIC LONGITUDE = 76.94 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
6.35	H	H	7443	1	5.87	R	R	4245	1
6.34	-12.22	616.95	5462	1	5.86	R	R	3093	1
6.33	R	H	4342	1	5.85	R	R	4083	1
6.32	H	R	3696	1	5.84	R	R	4010	1
6.31	H	H	2083	1	5.83	R	R	3036	1
6.30	H	H	3534	1	5.82	R	R	3252	1
6.29	R	R	3108	1	5.81	R	R	2337	1
6.28	H	R	6854	1	5.80	R	R	2232	1
6.27	H	H	2992	1	5.79	R	R	4501	1
6.26	H	H	3690	1	5.78	R	R	3058	1
6.25	H	H	3269	1	5.77	2.51	952.24	9761	1
6.24	H	R	9665	1	5.76	R	R	12111	1
6.23	H	R	8193	1	5.75	R	R	2534	1
6.22	H	H	2161	1	5.74	R	R	3687	1
6.21	H	H	2063	1	5.73	R	H	4395	1
6.20	R	H	2038	1	5.72	R	R	1621	1
6.19	H	R	4073	1	5.71	R	R	1577	1
6.18	H	H	2894	1	5.70	R	R	1552	1
6.17	H	R	2449	1	5.69	R	R	1529	1
6.16	H	H	3766	1	5.68	R	R	1507	1
6.15	H	H	4324	1	5.67	R	R	1486	1
6.14	H	R	2484	1	5.66	R	R	1468	1
6.13	H	H	5716	1	5.65	R	R	1452	1
6.12	H	H	1803	1	5.64	R	R	1440	1
6.11	1.06	611.57	5742	1	5.63	R	R	1431	1
6.10	H	R	1761	1	5.62	R	R	1426	1
6.09	H	H	1676	1	5.61	R	R	1427	1
6.08	H	F	1599	1	5.60	R	R	1442	1
6.07	H	F	1593	1	5.59	R	R	1407	1
6.06	H	F	1597	1	5.58	R	R	1528	1
6.05	H	F	1607	1	5.57	R	R	1574	1
6.04	R	R	1622	1	5.56	R	R	4801	1
6.03	H	R	1639	1	5.55	R	R	3563	1
6.02	H	R	1661	1	5.54	R	R	2241	1
6.01	H	H	1686	1	5.53	R	R	6224	1
6.00	R	H	1941	1	5.52	R	R	7465	1
5.99	H	R	4386	1	5.51	R	R	4639	1
5.98	R	R	7483	1	5.50	R	R	2031	1
5.97	H	R	4516	1	5.49	R	R	2084	1
5.96	H	R	5543	1	5.48	R	R	4381	1
5.95	H	H	3736	1	5.47	R	R	4050	1
5.94	H	H	5481	1	5.46	R	R	4453	1
5.93	H	H	3045	1	5.45	R	R	3569	1
5.92	R	H	6942	1	5.44	R	R	9438	1
5.91	H	H	2411	1	5.43	R	R	4681	1
5.90	H	R	2321	1	5.42	R	R	3619	1
5.89	H	H	2444	1	5.41	R	R	5277	1
5.88	H	R	2490	1	5.40	R	R	5384	1

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ALMA ATA, U.S.S.R. (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 43.20 N

GEOGRAPHIC LONGITUDE = 76.94 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
5.39	H	R	3721	1	4.93	R	R	1686	1
5.38	H	R	3203	1	4.92	R	R	3506	1
5.37	H	R	3189	1	4.91	R	R	6291	1
5.36	H	R	4094	1	4.90	R	R	2348	1
5.35	H	R	5386	1	4.89	R	R	4170	1
5.34	H	R	3453	1	4.88	R	R	2942	1
5.33	H	R	7276	1	4.87	R	R	7300	1
5.32	H	R	2293	1	4.86	R	R	10185	1
5.31	H	R	2806	1	4.85	R	R	9308	1
5.30	R	R	5467	1	4.84	R	R	3079	1
5.29	H	R	2365	1	4.83	R	R	5240	1
5.28	H	R	7843	1	4.82	R	R	11044	1
5.27	H	R	5585	1	4.81	R	R	3053	1
5.26	H	R	1617	1	4.80	R	R	6786	1
5.25	H	R	1585	1	4.79	R	R	2585	1
5.24	H	R	1562	1	4.78	R	R	3814	1
5.23	H	R	1544	1	4.77	R	R	4075	1
5.22	H	R	1533	1	4.76	R	R	1976	1
5.21	H	R	1535	1	4.75	R	R	1814	1
5.20	H	R	1553	1	4.74	R	R	1794	1
5.19	H	R	1585	1	4.73	R	R	1784	1
5.18	H	R	1639	1	4.72	R	R	1785	1
5.17	H	R	2680	1	4.71	R	R	1794	1
5.16	H	R	8003	1	4.70	R	R	1814	1
5.15	H	R	6103	1	4.65	R	R	2507	1
5.14	R	R	4027	1	4.60	R	R	11171	1
5.13	H	R	3253	1	4.55	R	R	12349	1
5.12	H	R	2185	1	4.56	R	R	2650	1
5.11	H	R	2862	1	4.45	R	R	7979	1
5.10	R	R	3600	1	4.40	R	R	8195	1
5.09	H	R	8485	1	4.38	R	R	2848	1
5.08	H	R	4761	1	4.30	R	R	6131	1
5.07	H	R	4627	1	4.25	R	R	2628	1
5.06	H	R	5416	1	4.20	R	R	10465	1
5.05	H	R	2989	1	4.15	F	F	15001	1
5.04	H	R	3256	1	4.10	R	R	10095	1
5.03	H	R	2637	1	4.05	R	R	3923	1
5.02	F	F	18001	1	4.00	R	R	3294	1
5.01	R	R	4304	1	3.95	R	R	9269	1
5.00	H	R	2543	1	3.90	R	R	3051	1
4.99	H	R	1868	1	3.85	R	R	7647	1
4.98	H	R	1663	1	3.80	R	R	6921	1
4.97	R	R	1642	1	3.75	R	R	5010	1
4.96	R	R	1632	1	3.70	R	R	4877	1
4.95	R	R	1634	1	3.65	R	R	7461	1
4.94	H	R	1652	1	2.81	R	R	584	2

## APATITY, U.S.S.R.

GEOGRAPHIC LATITUDE = 67.55 N

GEOGRAPHIC LONGITUDE = 33.33 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	46.21	71.75	103	10	0.72	3.88	257.27	1556	1
19.00	45.09	71.50	104	10	0.71	-7.83	274.93	1637	1
18.00	43.94	71.29	104	10	0.70	+25.14	308.69	1773	1
17.00	42.76	70.94	104	10	0.69	-20.90	609.18	5542	1
16.00	41.58	70.50	104	10	0.68	3.04	346.91	2534	1
15.00	40.42	69.97	104	10	0.67	R	R	4316	1
14.00	39.34	69.39	104	10	0.66	-5.05	592.37	7673	1
13.00	38.37	68.81	148	9	0.65	F	F	15001	1
12.00	37.59	68.30	149	9	0.64	-3.15	1323.27	14069	1
11.00	37.03	68.02	194	8	0.63	3.11	490.57	4047	1
10.00	36.60	68.27	236	7	0.62	R	R	3535	1
9.00	36.25	69.45	236	7	0.61	F	F	15001	1
8.00	35.14	71.82	280	6	0.60	F	F	15001	1
7.00	32.18	74.99	336	5	0.59	F	F	15001	1
6.00	26.84	77.10	340	5	0.58	R	R	3699	1
5.00	22.21	76.72	471	4	0.57	F	F	15001	1
4.00	20.21	80.01	545	3	0.56	F	F	15001	1
3.00	11.34	84.34	564	3	0.55	F	F	15001	1
2.00	1.59	95.95	664	2	0.54	F	F	15001	1
1.90	-0.90	98.50	674	2	0.53	R	R	4609	1
1.80	-2.70	100.15	684	2	0.52	R	R	6837	1
1.70	-3.04	101.76	694	2	0.51	F	F	15001	1
1.60	-4.67	105.44	708	2	0.50	F	F	15001	1
1.50	-7.34	109.44	856	1	0.49	F	F	15001	1
1.40	-7.61	112.41	877	1	0.48	F	F	15001	1
1.30	-9.95	119.00	907	1	0.47	F	F	15001	1
1.20	-10.09	124.19	940	1	0.46	F	F	15001	1
1.10	-10.94	134.31	989	1	0.45	F	F	15001	1
1.00	-9.54	145.55	1046	1	0.44	F	F	15001	1
0.90	-4.91	161.47	1132	1	0.43	F	F	15001	1
0.80	6.95	190.47	1276	1	0.42	F	F	15001	1
0.79	8.91	195.14	1296	1	0.37	F	F	15001	1
0.76	10.34	199.24	1316	1	0.32	F	F	15001	1
0.77	11.20	203.12	1337	1	0.27	R	R	7582	1
0.76	12.01	208.01	1360	1	0.22	F	F	15001	1
0.75	12.60	215.39	1390	1	0.17	R	R	6580	1
0.74	13.22	226.39	1431	1	0.12	R	R	8971	1
0.73	10.94	241.00	1480	1	0.07	F	F	15001	1
					0.02	F	F	15001	1

C8

## BARILUCHE, ARGENTINA

GEOGRAPHIC LATITUDE = 41.15 S

GEOGRAPHIC LONGITUDE = 288.98 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-3.89	-1.70	112	10	10.26	R	R	1425	1
19.00	-3.38	.93	113	10	10.25	R	R	1380	1
18.00	3.59	4.11	115	10	10.24	R	R	1356	1
17.00	8.03	7.94	117	10	10.23	R	R	1337	1
16.00	13.13	12.70	120	10	10.22	R	R	1323	1
15.00	18.68	19.20	123	10	10.21	R	R	1311	1
14.00	24.38	28.50	128	10	10.20	R	R	1301	1
13.00	26.81	43.23	191	9	10.19	R	R	1293	1
12.00	27.12	06.79	207	9	10.18	P	R	1286	1
11.90	26.18	09.70	270	8	10.17	R	R	1282	1
11.80	25.03	72.83	273	8	10.16	R	R	1277	1
11.70	23.63	76.07	270	8	10.15	R	R	1275	1
11.60	21.90	79.42	280	8	10.14	R	R	1273	1
11.50	19.98	02.93	284	8	10.13	R	R	1273	1
11.40	17.60	06.60	288	8	10.12	R	R	1274	1
11.30	14.90	90.51	293	8	10.11	R	R	1276	1
11.20	11.83	94.70	299	8	10.10	R	R	1279	1
11.10	8.23	99.27	303	8	10.09	R	R	1284	1
11.00	4.13	104.44	313	8	10.08	R	R	1290	1
10.90	-4.47	110.40	322	8	10.07	R	R	1298	1
10.80	-5.47	117.90	333	8	10.06	R	R	1307	1
10.70	-10.44	127.99	346	8	10.05	R	R	1318	1
10.60	-13.90	142.54	360	8	10.04	R	R	1331	1
10.50	-12.01	102.73	1402	1	10.03	R	R	1346	1
10.50	-11.12	105.64	1417	1	10.02	R	R	1365	1
10.49	-10.02	108.70	1433	1	10.01	R	R	1391	1
10.48	-8.69	171.93	1451	1	10.00	R	R	1370	1
10.47	-7.00	175.43	1471	1	9.99	R	R	1370	1
10.46	-5.10	179.10	1493	1	9.98	R	R	1385	1
10.45	-2.93	183.27	1517	1	9.97	R	R	1413	1
10.44	-0.31	187.70	1543	1	9.96	-8.55	234.42	2573	1
10.43	2.70	192.80	1573	1	9.95	-5.91	259.37	2669	1
10.42	6.12	198.77	1600	1	9.94	R	R	3363	1
10.41	9.83	205.80	1649	1	9.93	R	R	2304	1
10.40	13.54	214.90	1699	1	9.92	R	R	2197	1
10.39	16.32	226.99	1764	1	9.91	-14.42	309.13	3408	1
10.38	15.43	244.03	1850	1	9.90	R	R	2823	1
10.37	2.30	208.80	2010	1	9.89	R	R	3090	1
10.36	-13.41	307.29	2050	1	9.88	R	R	1765	1
10.35	R	R	2005	1	9.87	R	R	1736	1
10.34	R	R	1855	1	9.86	R	R	1725	1
10.33	R	R	1871	1	9.85	R	R	1722	1
10.32	-12.77	300.53	4149	1	9.84	R	R	1725	1
10.31	-13.30	206.42	2533	1	9.83	R	R	1735	1
10.30	-1.79	209.20	2209	1	9.82	R	R	1754	1
10.29	3.43	214.34	2282	1	9.81	R	R	1784	1
10.28	-24.79	292.27	2700	1	9.80	R	R	1832	1
10.27	R	R	3043	1	9.79	R	R	3240	1

BARILUCHE, ARGENTINA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 41.15 S

GEOGRAPHIC LONGITUDE = 288.93 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
9.70	K	K	2640	1	9.41	R	R	828	1
9.71	-11.50	358.25	3312	1	9.40	R	R	824	1
9.70	K	K	3841	1	9.39	R	R	820	1
9.75	K	K	2589	1	9.38	R	R	816	1
9.74	-1.94	342.61	2697	1	9.37	R	R	813	1
9.75	-12.85	245.18	2242	1	9.36	R	R	809	1
9.72	-5.54	220.15	2127	1	9.35	R	R	806	1
9.71	-4.5	206.01	2061	1	9.34	R	R	802	1
9.70	2.69	196.20	2018	1	9.33	R	R	799	1
9.69	4.49	189.00	1988	1	9.32	R	R	796	1
9.68	5.42	183.50	1965	1	9.31	R	R	794	1
9.67	5.79	179.39	1948	1	9.30	R	R	791	1
9.66	5.81	176.30	1937	1	9.29	R	R	788	1
9.65	5.60	174.15	1929	1	9.28	R	R	785	1
9.64	5.20	172.85	1925	1	9.27	R	R	782	1
9.63	4.88	172.32	1925	1	9.26	R	R	780	1
9.62	4.51	172.50	1925	1	9.21	R	R	768	1
9.61	4.22	173.50	1930	1	9.16	R	R	757	1
9.60	4.00	175.37	1939	1	9.11	R	R	747	1
9.59	4.09	178.05	1951	1	9.06	R	R	738	1
9.58	4.38	181.75	1967	1	9.01	R	R	729	1
9.57	5.00	186.62	1989	1	8.96	R	R	720	1
9.56	5.98	193.10	2018	1	8.91	R	R	712	1
9.55	7.25	201.80	2050	1	8.86	R	R	705	1
9.54	8.28	214.25	2114	1	8.81	R	R	698	1
9.53	7.02	233.52	2205	1	8.76	R	R	691	1
9.52	-7.18	271.99	2396	1	8.71	R	R	685	1
9.51	-2.38	305.20	3579	1	8.66	R	R	679	1
9.50	K	K	2265	1	8.61	R	R	673	1
9.49	K	K	2254	1	8.56	R	R	668	1
9.48	K	K	3038	1	8.51	R	R	663	1
9.47	-5.62	402.52	4082	1	8.46	R	R	657	1
9.46	K	K	861	1	8.41	R	R	652	1
9.45	K	K	850	1	8.36	R	R	647	1
9.44	K	K	845	1	8.31	R	R	643	1
9.43	K	K	837	1	8.26	R	R	639	1
9.42	K	K	835	1	8.21	R	R	635	1

## DELGRANO, ANTARCTICA

GEOGRAPHIC LATITUDE = 77.97 S

GEOGRAPHIC LONGITUDE = 321.20 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-41.53	2.90	106	10	0.84	6.97	256.63	1772	1
19.00	-39.83	1.80	106	10	0.83	-4.87	305.22	2288	1
18.00	-38.06	.57	107	10	0.82	-17.37	282.69	2417	1
17.00	-36.24	-0.86	107	10	0.81	22.08	450.19	3489	1
16.00	-34.39	-2.46	107	10	0.80	-7.09	626.56	6881	1
15.00	-32.50	-4.25	108	10	0.79	R	R	2228	1
14.00	-30.82	-6.25	108	10	0.78	3.34	484.15	5230	1
13.00	-29.20	-8.35	154	9	0.77	8.08	437.98	4593	1
12.00	-28.06	-10.58	154	9	0.76	9.63	434.01	3540	1
11.00	-27.38	-12.70	201	8	0.75	-8.15	1054.32	12007	1
10.00	-27.41	-14.40	245	7	0.74	4.98	493.35	5562	1
9.00	-28.10	-15.05	245	7	0.73	F	F	15001	1
8.00	-29.00	-13.72	290	6	0.72	F	F	15001	1
7.00	-27.93	-18.05	346	5	0.71	F	F	15001	1
6.00	-21.91	-6.24	349	5	0.70	F	F	15001	1
5.00	-12.64	-7.24	490	4	0.69	F	F	15001	1
4.00	-11.35	-8.19	570	3	0.68	F	F	15001	1
3.00	1.44	-2.26	584	3	0.67	F	F	15001	1
2.00	12.13	7.45	696	2	0.66	F	F	15001	1
1.90	13.40	10.33	705	2	0.65	R	R	2695	1
1.80	17.49	14.35	716	2	0.64	R	R	12132	1
1.70	20.46	17.51	731	2	0.63	F	F	15001	1
1.60	20.11	19.61	744	2	0.62	R	R	3526	1
1.50	22.55	25.52	902	1	0.61	F	F	15001	1
1.40	25.45	33.41	934	1	0.60	F	F	15001	1
1.30	24.81	38.55	961	1	0.59	F	F	15001	1
1.20	25.50	53.11	1012	1	0.58	F	F	15001	1
1.10	22.81	63.94	1061	1	0.57	R	R	6106	1
1.00	13.82	83.75	1147	1	0.56	F	F	15001	1
0.99	13.25	85.43	1155	1	0.55	F	F	15001	1
0.98	12.43	87.80	1164	1	0.54	F	F	15001	1
0.97	11.15	91.01	1177	1	0.53	F	F	15001	1
0.96	9.17	95.05	1193	1	0.52	F	F	15001	1
0.95	6.54	99.72	1211	1	0.51	F	F	15001	1
0.94	3.43	104.85	1235	1	0.46	R	R	4009	1
0.93	.33	109.96	1254	1	0.42	F	F	15001	1
0.92	-2.22	114.74	1275	1	0.37	R	R	5640	1
0.91	-3.94	118.86	1294	1	0.32	F	F	15001	1
0.90	-4.96	122.34	1310	1	0.27	R	R	4333	1
0.89	-5.67	125.96	1326	1	0.22	R	R	5361	1
0.88	-6.54	131.04	1346	1	0.17	R	R	6384	1
0.87	-7.73	139.34	1376	1	0.12	R	R	8963	1
0.86	-8.10	153.75	1425	1	0.07	F	F	15001	1
0.85	-2.51	179.60	1515	1	0.02	F	F	15001	1



## BERGEN, NORWAY

GEOGRAPHIC LATITUDE = 60.40 N

GEOGRAPHIC LONGITUDE = 5.32 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	55.91	49.96	105	10	1.15	12.25	422.95	3222	1
19.00	54.30	50.07	105	10	1.14	F	F	15001	1
18.00	52.61	50.07	105	10	1.13	3.18	579.99	4575	1
17.00	50.84	50.01	106	10	1.12	R	R	3049	1
16.00	49.00	49.82	106	10	1.11	-1.77	1247.82	10996	1
15.00	47.14	49.51	106	10	1.10	-10.84	1089.88	10233	1
14.00	45.32	49.11	107	10	1.09	F	F	15001	1
13.00	43.60	48.62	152	9	1.08	F	F	15001	1
12.00	42.11	48.07	152	9	1.07	R	R	2663	1
11.00	40.96	47.61	198	8	1.06	F	F	15001	1
10.00	40.33	47.47	242	7	1.05	F	F	15001	1
9.00	40.13	48.06	242	7	1.04	F	F	15001	1
8.00	39.80	50.13	286	6	1.03	F	F	15001	1
7.00	38.02	54.17	344	5	1.02	R	R	12359	1
6.00	36.42	59.31	349	5	1.01	F	F	15001	1
5.00	34.54	62.69	489	4	1.00	R	R	8782	1
4.00	32.55	66.17	569	3	0.99	F	F	15001	1
3.00	-7.21	70.67	596	3	0.98	R	R	4153	1
2.90	-7.47	71.74	659	2	0.97	F	F	15001	1
2.80	-7.35	72.80	663	2	0.96	R	R	6706	1
2.70	-7.15	74.31	666	2	0.95	F	F	15001	1
2.60	-7.20	76.54	671	2	0.94	F	F	15001	1
2.50	-8.02	79.77	676	2	0.93	F	F	15001	1
2.40	-9.35	83.92	683	2	0.92	F	F	15001	1
2.30	-10.59	88.55	693	2	0.91	F	F	15001	1
2.20	-10.80	92.70	703	2	0.90	F	F	15001	1
2.10	-10.04	95.85	713	2	0.89	F	F	15001	1
2.00	-8.99	99.10	723	2	0.88	F	F	15001	1
1.90	-8.48	102.10	730	2	0.87	F	F	15001	1
1.80	-7.10	124.77	786	2	0.86	R	R	4328	1
1.70	-3.09	134.12	781	2	0.85	F	F	15001	1
1.60	.70	141.54	804	2	0.84	F	F	15001	1
1.50	6.40	157.55	996	1	0.83	R	R	2853	1
1.40	17.07	188.60	1084	1	0.82	R	R	3167	1
1.30	3.00	239.42	1241	1	0.81	R	R	3603	1
1.20	3.74	242.30	4514	1	0.80	R	R	4258	1
1.10	-9.43	357.10	2776	1	0.79	R	R	5310	1
1.10	16.44	428.02	3224	1	0.78	R	R	7141	1
1.11	F	F	15001	1	0.77	R	R	11094	1
1.10	7.92	479.53	3179	1	0.76	F	F	15001	1

## BERKELEY, UNITED STATES

GEOGRAPHIC LATITUDE = 37.86 N

GEOGRAPHIC LONGITUDE = 122.70 W

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-4.13	-82.24	109	10	4.77	R	R	1415	1
19.00	-10.83	-81.33	110	10	4.76	R	R	1393	1
18.00	-13.72	-80.32	110	10	4.75	R	R	1379	1
17.00	-16.81	-79.17	111	10	4.74	R	R	1366	1
16.00	-20.00	-77.80	113	10	4.73	R	R	1356	1
15.00	-23.41	-76.14	114	10	4.72	R	R	1348	1
14.00	-26.70	-74.07	115	10	4.71	R	R	1342	1
13.00	-29.91	-71.42	165	9	4.70	R	R	1339	1
12.00	-32.57	-68.03	167	9	4.69	R	R	1339	1
11.00	-34.32	-63.81	221	8	4.68	R	R	1342	1
10.00	-34.75	-58.81	271	7	4.67	R	R	1351	1
9.00	-33.63	-52.90	275	7	4.66	R	R	1364	1
8.00	-31.30	-45.43	320	6	4.65	R	R	1380	1
7.00	-28.00	-32.73	401	5	4.64	R	R	1397	1
6.00	-18.90	-6.74	420	5	4.63	R	R	1417	1
5.90	-16.60	-3.04	592	4	4.62	R	R	1441	1
5.82	-14.54	.14	600	4	4.61	R	R	1488	1
5.80	-13.93	.97	601	4	4.60	R	R	9704	1
5.72	-11.33	4.40	609	4	4.59	R	R	11201	1
5.70	-10.61	5.24	611	4	4.58	R	R	7982	1
5.62	-7.40	9.03	620	4	4.57	-4.81	276.15	3553	1
5.60	-6.52	10.00	622	4	4.56	R	R	4470	1
5.52	-2.62	14.14	632	4	4.55	R	R	3430	1
5.50	-1.54	15.20	630	4	4.54	R	R	12946	1
5.42	3.17	20.04	646	4	4.53	10.39	890.64	9685	1
5.40	4.40	21.30	652	4	4.52	R	R	2489	1
5.32	10.00	27.31	666	4	4.51	7.16	508.82	8453	1
5.30	11.50	29.04	673	4	4.50	-1.11	220.19	2945	1
5.22	17.94	37.32	693	4	4.49	-13.01	625.94	8072	1
5.20	19.50	39.87	694	4	4.48	-7.35	329.35	5207	1
5.12	25.57	53.24	726	4	4.47	R	R	7269	1
5.10	26.71	57.73	737	4	4.46	R	R	4828	1
5.02	26.43	62.43	784	4	4.45	R	R	2913	1
5.00	23.94	60.72	800	4	4.44	-8.65	546.38	5940	1
4.92	-10.70	150.17	937	4	4.43	R	R	4360	1
4.90	4.41	271.20	1121	4	4.42	F	F	15001	1
4.84	-15.84	371.03	4274	1	4.41	-7.92	355.15	3297	1
4.80	-4.62	214.47	2764	1	4.40	3.21	400.24	3955	1
4.87	R	R	5165	1	4.39	-4.42	268.75	3068	1
4.80	8.53	147.12	2161	1	4.38	R	R	3406	1
4.83	1.30	152.50	2034	1	4.37	-16.01	306.08	3717	1
4.84	-0.73	321.37	3944	1	4.36	R	R	2302	1
4.83	R	R	5082	1	4.35	R	R	2329	1
4.82	8.52	101.50	2284	1	4.34	R	R	10359	1
4.81	-9.80	245.84	3110	1	4.33	-5.05	961.80	13635	1
4.80	12.30	145.83	2523	1	4.32	F	F	15001	1
4.74	9.83	202.10	2616	1	4.31	R	R	2760	1
4.70	R	R	1589	1	4.30	R	R	53.7	1

BERKELEY, UNITED STATES

(CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 37.86 N

GEOGRAPHIC LONGITUDE = 237.70 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.24	-3.84	187.93	2670	1	3.89	R	R	894.7	1
4.26	-8.80	328.75	4435	1	3.88	R	R	7228	1
4.27	7.64	207.70	3513	1	3.87	R	R	7980	1
4.28	6.01	189.24	3264	1	3.86	R	R	12946	1
4.25	-1.54	783.10	8853	1	3.85	R	R	2415	1
4.24	3.52	478.91	6456	1	3.84	R	R	2400	1
4.23	3.94	187.72	3421	1	3.83	R	R	2467	1
4.22	2.63	240.04	3271	1	3.82	F	F	15001	1
4.21	-3.64	509.35	7448	1	3.81	F	F	15001	1
4.20	H	H	1935	1	3.80	R	R	5923	1
4.19	H	H	1885	1	3.79	R	R	3082	1
4.18	H	H	1830	1	3.78	R	R	3612	1
4.17	H	H	1788	1	3.77	R	R	9255	1
4.16	H	H	1766	1	3.76	R	R	5711	1
4.15	H	H	1756	1	3.75	R	R	2499	1
4.14	H	H	1756	1	3.74	R	R	2314	1
4.13	H	H	1757	1	3.73	R	R	7974	1
4.12	H	H	1760	1	3.72	R	R	5715	1
4.11	H	H	1765	1	3.67	R	R	3158	1
4.10	H	H	1771	1	3.62	R	R	3663	1
4.09	H	H	1778	1	3.57	R	R	1622	1
4.08	H	H	1786	1	3.52	F	F	15001	1
4.07	H	H	1797	1	3.47	R	R	5294	1
4.06	H	H	1794	1	3.42	R	R	9642	1
4.05	H	H	1797	1	3.37	R	R	9644	1
4.04	H	H	1804	1	3.32	R	R	5606	1
4.03	H	H	1964	1	3.27	R	R	1787	1
4.02	H	R	2054	1	3.22	F	F	15001	1
4.01	-6.67	335.42	4411	1	3.17	R	R	2868	1
4.00	1.19	504.83	8388	1	3.12	R	R	2584	1
3.99	H	H	4368	1	3.07	F	F	15001	1
3.98	-9.98	630.15	7467	1	3.02	F	F	15001	1
3.97	6.12	828.90	9514	1	2.97	R	R	1705	1
3.96	1.63	502.84	7528	1	2.92	F	F	15001	1
3.95	H	H	10574	1	2.87	R	R	4573	1
3.94	1.80	934.92	9972	1	2.82	R	R	2105	1
3.93	H	H	3442	1	2.77	R	R	2974	1
3.92	H	H	14036	1	2.72	R	R	4831	1
3.91	H	H	5723	1	2.67	H	R	9109	1
3.90	H	H	5770	1	1.63	R	R	852	2

## BRISBANE, AUSTRALIA

GEOGRAPHIC LATITUDE = 27.50 S

GEOGRAPHIC LONGITUDE = 153.01 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	8.43	03.00	108	10	7.55	-25.30	336.98	2323	1
19.00	10.79	05.41	109	10	7.54	R	R	2559	1
18.00	13.38	08.10	110	10	7.53	-3.94	325.74	2829	1
17.00	16.20	11.20	110	10	7.52	1.82	330.65	2840	1
16.00	19.25	15.14	112	10	7.51	.45	353.98	3233	1
15.00	22.40	19.91	114	10	7.50	-7.23	389.78	3356	1
14.00	25.67	26.00	116	10	7.49	-25.65	301.43	2332	1
13.00	28.49	34.01	167	9	7.48	-13.32	271.87	2217	1
12.00	30.04	104.75	173	9	7.47	-8.05	276.38	2223	1
11.00	28.50	118.81	234	8	7.46	-22.77	313.74	2324	1
10.00	20.81	136.10	300	7	7.45	R	R	2679	1
9.00	1.93	158.29	330	7	7.44	22.23	439.13	4592	1
8.00	-13.55	226.11	499	6	7.43	R	R	2921	1
7.90	-3.83	246.54	535	6	7.42	-25.34	305.53	2650	1
7.89	-2.40	249.19	1325	1	7.41	-14.39	277.66	2556	1
7.80	-1.03	252.03	1338	1	7.40	R	R	1433	1
7.81	.45	255.10	1352	1	7.39	R	R	1402	1
7.80	1.98	258.44	1368	1	7.38	R	R	1378	1
7.85	3.52	26.10	1384	1	7.37	R	R	1357	1
7.84	5.03	206.19	1403	1	7.36	R	R	1339	1
7.85	6.44	270.78	1424	1	7.35	R	R	1321	1
7.82	7.63	276.01	1448	1	7.34	R	R	1305	1
7.81	8.44	282.07	1475	1	7.33	R	R	1289	1
7.80	8.58	289.17	1507	1	7.32	R	R	1274	1
7.79	7.57	297.63	1540	1	7.31	R	R	1258	1
7.70	4.63	307.95	1595	1	7.30	R	R	1244	1
7.77	-1.50	321.13	1662	1	7.29	R	R	1231	1
7.70	-12.80	340.70	1762	1	7.28	R	R	1219	1
7.75	-20.64	346.93	1960	1	7.27	R	R	1210	1
7.74	R	R	2192	1	7.26	R	R	1202	1
7.73	-14.24	344.44	2504	1	7.25	R	R	1195	1
7.72	-15.14	342.30	2815	1	7.24	R	R	1169	1
7.71	R	R	1043	1	7.23	R	R	1184	1
7.70	R	R	1750	1	7.22	R	R	1180	1
7.69	R	R	1740	1	7.21	R	R	1177	1
7.60	4.98	302.90	3100	1	7.20	R	R	1173	1
7.67	22.17	455.10	4090	1	7.19	R	R	1170	1
7.65	-19.00	303.20	2493	1	7.18	R	R	1168	1
7.65	R	R	3261	1	7.17	R	R	1167	1
7.64	2.90	459.91	3499	1	7.16	R	R	1166	1
7.63	-12.65	510.04	4330	1	7.15	R	R	1165	1
7.62	-16.75	331.35	2480	1	7.14	R	R	1164	1
7.61	-23.70	207.05	2112	1	7.13	R	R	1165	1
7.60	-15.13	208.73	2044	1	7.12	R	R	1166	1
7.59	-8.34	202.55	2010	1	7.11	R	R	1169	1
7.50	-3.71	204.49	2010	1	7.10	R	R	1174	1
7.57	-1.29	274.10	2045	1	7.09	R	R	1183	1
7.50	-5.44	293.51	2119	1	7.08	R	R	1236	1

BRISBANE, AUSTRALIA

(CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 27.50 S

GEOGRAPHIC LONGITUDE = 153.01 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
7.01	K	K	1267	1	6.59	-6.67	310.11	2155	1
7.00	K	K	1287	1	6.58	.81	397.43	2482	1
7.05	K	K	1305	1	6.57	23.00	467.96	3635	1
7.04	K	K	1322	1	6.56	-5.50	388.30	3090	1
7.03	K	K	1342	1	6.55	-8.37	382.26	3240	1
7.02	K	K	1367	1	6.54	R	R	2184	1
7.01	-21.68	240.75	2564	1	6.53	R	R	2061	1
7.00	11.50	414.04	3071	1	6.52	R	R	2001	1
6.99	K	K	2661	1	6.51	R	R	2024	1
6.98	2.94	309.43	4193	1	6.50	-13.65	739.88	5576	1
6.97	K	K	3175	1	6.49	R	R	3199	1
6.96	-6.38	352.32	3188	1	6.48	R	K	4421	1
6.95	.77	441.06	5494	1	6.47	R	R	2961	1
6.94	-9.87	378.80	3737	1	6.46	R	R	3537	1
6.93	13.05	571.10	5570	1	6.45	R	R	2442	1
6.92	-23.40	249.51	2352	1	6.44	R	R	3865	1
6.91	-17.65	274.52	2255	1	6.43	-12.86	357.16	2625	1
6.90	-16.94	268.55	2224	1	6.42	-6.74	335.09	2540	1
6.89	-19.38	275.87	2244	1	6.41	R	R	4296	1
6.88	-16.13	304.36	2344	1	6.40	19.54	440.66	3511	1
6.87	K	K	2757	1	6.39	R	R	4246	1
6.86	K	K	2560	1	6.38	R	R	5562	1
6.85	K	K	2252	1	6.37	R	R	3457	1
6.84	K	K	3797	1	6.36	R	R	11230	1
6.83	-9.42	655.60	7030	1	6.35	R	R	4051	1
6.82	1.57	418.97	3121	1	6.34	11.95	539.53	6413	1
6.81	-6.82	322.12	2725	1	6.33	R	R	4372	1
6.80	-13.27	535.76	5162	1	6.32	-6.51	743.82	6794	1
6.79	6.50	534.04	5004	1	6.31	R	R	2962	1
6.78	K	K	8430	1	6.30	R	R	6565	1
6.77	-2.14	528.66	4795	1	6.29	R	R	1701	1
6.76	-8.02	352.63	2794	1	6.28	R	R	1664	1
6.75	K	K	3303	1	6.27	R	R	1635	1
6.74	12.54	412.72	3452	1	6.26	R	R	1611	1
6.73	K	K	2357	1	6.25	R	R	1589	1
6.72	8.72	422.77	3244	1	6.24	R	R	1574	1
6.71	-19.46	340.53	2236	1	6.23	R	R	1565	1
6.70	-21.64	243.14	2102	1	6.22	R	R	1561	1
6.69	-17.08	275.66	2036	1	6.21	R	R	1559	1
6.68	-13.67	265.55	2000	1	6.20	R	R	1560	1
6.67	-11.85	259.28	1477	1	6.19	R	R	1561	1
6.66	-11.26	255.62	1463	1	6.18	R	R	1565	1
6.65	-11.57	254.14	1458	1	6.17	R	R	1569	1
6.64	-12.48	254.71	1460	1	6.16	R	R	1574	1
6.63	-13.70	257.51	1470	1	6.15	R	R	1580	1
6.62	-14.84	262.43	1488	1	6.14	R	R	1586	1
6.61	-15.27	271.82	2018	1	6.13	R	R	1593	1
6.60	-13.42	265.90	2066	1	6.12	R	R	1601	1

BRISBANE, AUSTRALIA

(CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 27.50 S

GEOGRAPHIC LONGITUDE = 153.01 E

P	ASYMPTOTIC LAT	LONG	NS	STEP	SS	P	ASYMPTOTIC LAT	LONG	NS	STEP	SS
6.11	K	K	1609	1		5.63	R	R	2213	1	
6.10	K	K	1617	1		5.62	R	R	2234	1	
6.09	K	K	1625	1		5.61	R	R	2294	1	
6.08	K	K	1635	1		5.60	-0.88	1092.12	14002	1	
6.07	K	K	1643	1		5.59	R	R	3717	1	
6.06	K	K	1652	1		5.58	R	R	13373	1	
6.05	K	K	1661	1		5.57	R	R	3623	1	
6.04	K	K	1672	1		5.56	R	R	2894	1	
6.03	K	K	1687	1		5.55	R	R	9926	1	
6.02	K	K	1714	1		5.54	R	R	3623	1	
6.01	K	K	4054	1		5.53	R	R	2943	1	
6.00	K	K	7170	1		5.52	R	R	13507	1	
5.99	K	K	9352	1		5.51	R	R	4788	1	
5.98	K	K	6363	1		5.50	R	R	3651	1	
5.97	K	K	4168	1		5.49	R	R	7929	1	
5.96	K	K	4507	1		5.48	R	R	2159	1	
5.95	-6.47	566.90	5853	1		5.47	R	R	2105	1	
5.94	K	R	7017	1		5.46	R	R	2075	1	
5.93	K	K	3290	1		5.45	R	R	2120	1	
5.92	K	K	4030	1		5.44	R	R	5590	1	
5.91	K	K	2552	1		5.43	R	R	5789	1	
5.90	K	K	2553	1		5.42	R	R	2734	1	
5.89	K	K	8412	1		5.41	R	R	4585	1	
5.88	K	K	4422	1		5.40	R	R	4569	1	
5.87	K	K	3296	1		5.39	R	R	5701	1	
5.86	K	K	4362	1		5.38	R	R	3893	1	
5.85	K	K	5654	1		5.37	R	R	6594	1	
5.84	K	K	3504	1		5.36	R	R	9576	1	
5.83	K	K	3656	1		5.35	R	R	6326	1	
5.82	K	K	4480	1		5.34	R	R	4178	1	
5.81	-10.68	657.47	7455	1		5.33	R	R	1539	1	
5.80	-4.38	606.54	7564	1		5.32	R	R	1400	1	
5.79	-4.27	554.55	6050	1		5.31	R	R	1379	1	
5.78	K	R	5385	1		5.30	R	R	1357	1	
5.77	K	R	4774	1		5.29	R	R	1344	1	
5.76	K	K	4515	1		5.28	R	R	1331	1	
5.75	K	K	3673	1		5.27	R	R	1326	1	
5.74	K	K	3241	1		5.26	R	R	1337	1	
5.73	K	K	4120	1		5.25	R	R	1417	1	
5.72	K	K	3620	1		5.24	R	R	2565	1	
5.71	K	K	2925	1		5.23	R	R	2212	1	
5.70	K	K	3570	1		5.22	R	R	6226	1	
5.69	K	K	3794	1		5.21	R	R	1937	1	
5.68	K	K	6218	1		5.20	R	R	14381	1	
5.67	K	K	4404	1		5.19	R	R	6121	1	
5.66	K	K	2307	1		5.18	R	R	3898	1	
5.65	K	K	2236	1		5.17	R	R	8555	1	
5.64	K	K	2207	1		5.16	R	R	5140	1	

BRISBANE, AUSTRALIA (CONTINUED - PAGE 4)

GEOGRAPHIC LATITUDE = 27.50 S GEOGRAPHIC LONGITUDE = 153.01 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.49	K	K	3419	1	4.39	R	R	1419	1
4.44	K	K	1535	1	4.02	R	R	5531	3

## BUDAPEST, HUNGARY

GEOGRAPHIC LATITUDE = 47.50 N

GEOGRAPHIC LONGITUDE = 18.90 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	12.60	72.50	100	10	4.76	7.45	512.18	3849	1
19.00	10.14	73.72	109	10	4.75	-6.23	312.40	1943	1
18.00	7.51	74.93	110	10	4.74	-14.26	326.56	1999	1
17.00	4.64	76.27	111	10	4.73	-9.65	896.23	6104	1
16.00	1.71	77.73	112	10	4.72	-6.75	676.19	6540	1
15.00	-1.30	79.40	113	10	4.71	-3.55	325.78	2247	1
14.00	-4.40	81.35	114	10	4.70	-1.53	379.76	2980	1
13.00	-7.41	83.60	164	9	4.69	.73	367.49	2505	1
12.00	-9.90	86.40	160	9	4.68	7.58	514.71	4428	1
11.00	-11.78	89.85	218	8	4.67	R	R	6092	1
10.00	-12.48	93.87	269	7	4.66	R	R	1486	1
9.00	-11.80	98.71	275	7	4.65	R	R	1381	1
8.00	-9.95	105.15	325	6	4.64	R	R	1339	1
7.00	-7.80	115.82	396	5	4.63	R	R	1324	1
6.00	-4.64	138.40	419	5	4.62	R	R	1315	1
5.90	-3.91	142.04	581	4	4.61	R	R	1310	1
5.80	-2.84	146.00	587	4	4.60	R	R	1309	1
5.70	-1.50	150.54	595	4	4.59	R	R	1311	1
5.60	.04	155.55	603	4	4.58	R	R	1315	1
5.50	2.22	161.25	613	4	4.57	R	R	1323	1
5.40	4.80	167.83	625	4	4.56	R	R	1334	1
5.30	8.07	175.71	641	4	4.55	R	R	1354	1
5.20	11.65	185.52	659	4	4.54	R	R	1481	1
5.10	14.92	198.52	684	4	4.53	R	R	3380	1
5.00	15.54	217.07	720	4	4.52	R	R	3878	1
4.99	15.24	219.37	1085	1	4.51	-10.62	357.39	2994	1
4.90	14.83	221.70	1092	1	4.50	R	R	2687	1
4.91	14.24	224.27	1100	1	4.49	R	R	2518	1
4.90	13.62	226.80	1108	1	4.48	-12.32	350.59	2874	1
4.95	12.70	229.62	1117	1	4.47	-8.29	366.70	2924	1
4.94	11.75	232.44	1127	1	4.46	1.00	493.35	4229	1
4.95	10.51	235.50	1137	1	4.45	3.35	424.19	2605	1
4.92	9.02	238.60	1146	1	4.44	R	R	2381	1
4.91	7.24	242.04	1160	1	4.43	-10.93	951.42	9730	1
4.90	5.13	245.62	1173	1	4.42	5.28	397.52	3437	1
4.89	2.63	249.40	1187	1	4.41	15.46	478.63	3369	1
4.80	-.32	253.60	1203	1	4.40	R	R	3167	1
4.81	-3.80	258.32	1221	1	4.39	-6.19	364.62	2754	1
4.80	-7.84	263.60	1242	1	4.38	R	R	3505	1
4.85	-12.60	270.00	1267	1	4.37	-3.76	508.44	3717	1
4.84	-16.11	278.22	1291	1	4.36	-5.11	328.17	2143	1
4.85	-23.91	289.63	1330	1	4.35	-7.54	318.88	2116	1
4.82	-28.37	307.47	1390	1	4.34	-13.38	345.82	2207	1
4.81	-23.54	337.62	1479	1	4.33	8.38	493.17	3445	1
4.80	21.20	344.27	1192	4	4.32	15.02	411.56	3216	1
4.79	17.45	329.67	7125	1	4.31	R	R	2196	1
4.70	R	R	1714	1	4.30	R	R	2248	1
4.71	-4.40	353.10	2325	1	4.29	R	R	3359	1



BUDAPEST, HUNGARY (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 47.50 N GEOGRAPHIC LONGITUDE = 18.90 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.26	K	K	3235	1	3.80	R	R	12463	1
4.27	K	K	2728	1	3.79	R	R	11687	1
4.26	5.40	342.22	2719	1	3.78	R	R	4479	1
4.25	7.24	452.27	3351	1	3.77	R	R	2952	1
4.24	-4.95	545.86	4766	1	3.76	R	R	10470	1
4.23	K	K	2883	1	3.75	R	R	3912	1
4.22	9.32	475.23	3634	1	3.74	R	R	2330	1
4.21	15.48	444.00	4731	1	3.73	R	R	2310	1
4.20	K	K	4789	1	3.72	-3.61	1036.11	13666	1
4.19	K	K	3676	1	3.71	R	R	2936	1
4.18	K	K	1916	1	3.70	R	R	4709	1
4.17	K	K	1619	1	3.69	R	R	10681	1
4.16	K	K	1792	1	3.68	R	R	4958	1
4.15	K	K	1785	1	3.67	R	R	2512	1
4.14	K	K	1763	1	3.66	R	R	10539	1
4.13	K	K	1760	1	3.65	R	R	8735	1
4.12	K	K	1770	1	3.64	R	R	6070	1
4.11	K	K	1789	1	3.63	F	F	15001	1
4.10	K	K	1816	1	3.62	F	F	15001	1
4.09	K	K	1866	1	3.61	R	R	6818	1
4.08	F	F	15001	1	3.60	F	F	15001	1
4.07	K	K	4266	1	3.59	R	R	1759	1
4.06	10.80	1113.56	11731	1	3.58	R	R	1670	1
4.05	K	K	6000	1	3.57	R	R	1638	1
4.04	4.07	563.05	5344	1	3.56	R	R	1618	1
4.03	K	K	4449	1	3.55	R	R	1603	1
4.02	-3.42	876.51	8881	1	3.54	R	R	1595	1
4.01	K	K	6242	1	3.53	R	R	1596	1
4.00	K	K	3460	1	3.52	R	R	1618	1
3.99	K	K	3304	1	3.51	R	R	1654	1
3.98	K	K	5801	1	3.46	R	R	9499	1
3.97	K	K	6467	1	3.41	R	R	2211	1
3.96	K	K	11235	1	3.36	R	R	2972	1
3.95	K	K	5668	1	3.31	R	R	3008	1
3.94	F	F	15001	1	3.26	R	R	7970	1
3.93	K	K	5776	1	3.21	R	R	1739	1
3.92	K	K	5943	1	3.16	R	R	5983	1
3.91	K	K	12525	1	3.11	R	R	10798	1
3.90	K	K	7421	1	3.06	R	R	7537	1
3.89	K	K	10646	1	3.01	F	F	15001	1
3.88	K	K	2482	1	2.96	R	R	5189	1
3.87	K	K	2374	1	2.91	F	F	15001	1
3.86	K	K	2372	1	2.86	F	F	15001	1
3.85	K	K	2369	1	2.81	R	R	6724	1
3.84	K	K	2426	1	2.76	R	R	1122	1
3.83	.44	909.07	9544	1	2.71	R	R	1111	1
3.82	F	F	15001	1	2.66	R	R	1119	1
3.81	K	K	4184	1	2.61	R	R	3054	1

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BUDAPEST, HUNGARY (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 47.50 N GEOGRAPHIC LONGITUDE = 18.90 E

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
2.50	R	R	3152	1	2.46	R	R	2005	1
2.51	F	F	5001	1	1.71	R	R	811	2

## BUENOS AIRES, ARGENTINA

GEOGRAPHIC LATITUDE = 34.58 S

GEOGRAPHIC LONGITUDE = 301.50 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	1.46	9.71	720	1	10.79	R	R	1321	1
19.00	4.64	13.12	729	1	10.78	R	R	1305	1
18.00	8.23	17.14	740	1	10.77	R	R	1291	1
17.00	12.26	22.06	754	1	10.76	R	R	1281	1
16.00	16.71	28.33	772	1	10.75	R	R	1273	1
15.00	21.41	36.81	124	10	10.74	R	R	1266	1
14.00	25.67	49.09	130	10	10.73	R	R	1262	1
13.00	27.14	67.89	195	9	10.72	R	R	1269	1
12.00	17.90	97.40	219	9	10.71	R	R	1265	1
11.90	15.67	101.23	286	8	10.70	R	R	1264	1
11.80	13.06	105.34	292	8	10.69	R	R	1264	1
11.70	10.02	109.80	298	8	10.68	R	R	1266	1
11.60	6.51	114.74	305	8	10.67	R	R	1270	1
11.50	2.48	120.37	313	8	10.66	R	R	1277	1
11.40	-2.06	127.10	323	8	10.65	R	R	1285	1
11.30	-6.99	135.62	335	8	10.64	R	R	1296	1
11.20	-11.71	147.37	352	8	10.63	R	R	1326	1
11.10	-14.04	165.26	377	8	10.62	R	R	1324	1
11.09	-13.93	167.57	1342	1	10.61	R	R	1342	1
11.08	-13.71	170.02	1354	1	10.60	R	R	1360	1
11.07	-13.37	172.61	1367	1	10.59	R	R	1348	1
11.06	-12.89	175.36	1382	1	10.58	R	R	1392	1
11.05	-12.24	178.27	1397	1	10.57	R	R	1376	1
11.04	-11.41	181.37	1413	1	10.56	R	R	1415	1
11.03	-10.37	184.67	1431	1	10.55	5.98	197.10	2373	1
11.02	-9.08	188.21	1451	1	10.54	.34	194.71	2353	1
11.01	-7.50	192.03	1472	1	10.53	-6.98	414.24	3499	1
11.00	-5.60	196.19	1496	1	10.52	R	R	2234	1
10.99	-3.33	200.77	1522	1	10.51	R	R	2237	1
10.98	-1.67	205.90	1552	1	10.50	R	R	3825	1
10.97	2.40	211.80	1586	1	10.49	15.46	446.78	4004	1
10.96	5.85	218.81	1627	1	10.48	R	R	1785	1
10.95	9.46	227.56	1677	1	10.47	R	R	1764	1
10.94	12.53	239.16	1742	1	10.46	R	R	1762	1
10.93	12.88	255.88	1833	1	10.45	R	R	1775	1
10.92	3.13	260.82	1992	1	10.44	R	R	1804	1
10.91	-24.03	366.10	2534	1	10.43	R	R	1855	1
10.90	R	R	1984	1	10.42	R	R	2659	1
10.89	R	R	1831	1	10.41	-9.10	310.86	3094	1
10.88	R	R	1843	1	10.40	R	R	2521	1
10.87	-20.11	341.42	3320	1	10.39	R	R	3517	1
10.86	-18.93	251.46	2480	1	10.38	-16.50	254.17	2266	1
10.85	-2.34	240.21	2275	1	10.37	-4.47	225.85	2121	1
10.84	3.00	240.98	2383	1	10.36	2.50	210.34	2045	1
10.83	R	R	3212	1	10.35	5.97	199.61	1996	1
10.82	R	R	2601	1	10.34	7.43	191.65	1962	1
10.81	R	R	1370	1	10.33	7.72	185.67	1938	1
10.80	R	R	1341	1	10.32	7.35	181.29	1921	1

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BUENOS AIRES, ARGENTINA

(CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 34.56 S

GEOGRAPHIC LONGITUDE = 301.50 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
10.31	6.61	178.23	1909	1	9.83	R	R	749	1
10.30	5.70	176.34	1902	1	9.82	R	R	747	1
10.29	4.72	175.51	1900	1	9.81	R	R	745	1
10.28	3.78	175.71	1902	1	9.80	R	R	742	1
10.27	2.97	176.93	1907	1	9.79	R	R	740	1
10.26	2.38	179.22	1917	1	9.78	R	R	738	1
10.25	2.14	182.70	1934	1	9.77	R	R	736	1
10.24	2.42	187.56	1955	1	9.76	R	R	734	1
10.23	3.40	194.16	1986	1	9.75	R	R	732	1
10.22	5.26	203.22	2027	1	9.74	R	R	730	1
10.21	7.80	216.26	2090	1	9.73	R	R	728	1
10.20	8.88	237.35	2192	1	9.72	R	R	727	1
10.19	R	R	883	1	9.71	R	R	725	1
10.18	R	R	872	1	9.70	R	R	723	1
10.17	R	R	864	1	9.69	R	R	721	1
10.16	R	R	858	1	9.68	R	R	720	1
10.15	R	R	852	1	9.67	R	R	717	1
10.14	R	R	846	1	9.66	R	R	716	1
10.13	R	R	841	1	9.65	R	R	714	1
10.12	R	R	836	1	9.64	R	R	712	1
10.11	R	R	832	1	9.63	R	R	711	1
10.10	R	R	828	1	9.62	R	R	709	1
10.09	R	R	824	1	9.61	R	R	707	1
10.08	R	R	820	1	9.60	R	R	706	1
10.07	R	R	817	1	9.59	R	R	704	1
10.06	R	R	812	1	9.58	R	R	702	1
10.05	R	R	809	1	9.57	R	R	701	1
10.04	R	R	806	1	9.56	R	R	700	1
10.03	R	R	802	1	9.55	R	R	698	1
10.02	R	R	799	1	9.54	R	R	696	1
10.01	R	R	795	1	9.53	R	R	695	1
10.00	R	R	793	1	9.52	R	R	694	1
9.99	R	R	790	1	9.51	R	R	692	1
9.98	R	R	787	1	9.50	R	R	691	1
9.97	R	R	784	1	9.48	R	R	683	1
9.96	R	R	781	1	9.40	R	R	677	1
9.95	R	R	776	1	9.38	R	R	671	1
9.94	R	R	776	1	9.30	R	R	665	1
9.93	R	R	773	1	9.25	R	R	659	1
9.92	R	R	770	1	9.20	R	R	653	1
9.91	R	R	766	1	9.15	R	R	648	1
9.90	R	R	766	1	9.10	R	R	643	1
9.89	R	R	763	1	9.05	R	R	638	1
9.88	R	R	760	1	9.00	R	R	634	1
9.87	R	R	756	1	8.95	R	R	629	1
9.86	R	R	756	1	8.90	R	R	625	1
9.85	R	R	754	1	8.85	R	R	621	1
9.84	R	R	751	1	8.80	R	R	618	1

BUENOS AIRES, ARGENTINA (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 34.58 S

GEOGRAPHIC LONGITUDE = 301.50 E

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
8.75	R	R	614	1	8.60	R	R	606	1
8.70	R	R	611	1	8.55	R	R	603	1
8.65	R	R	606	1	8.50	R	R	600	1

## CALGARY, CANADA

GEOGRAPHIC LATITUDE = 51.08 N

GEOGRAPHIC LONGITUDE = 245.91 E

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
20.00	20.00	-90.50	104	10	1.12	6.81	399.61	5369	1
19.00	18.57	-90.70	105	10	1.11	2.72	1105.28	11707	1
18.00	17.03	-91.11	105	10	1.10	4.53	422.45	3093	1
17.00	15.44	-91.51	105	10	1.09	R	R	3336	1
16.00	13.82	-91.99	106	10	1.08	21.15	1206.71	12363	1
15.00	12.22	-92.57	106	10	1.07	6.48	489.32	4072	1
14.00	10.63	-93.22	106	10	1.06	F	F	15001	1
13.00	9.27	-93.80	150	9	1.05	R	R	2353	1
12.00	8.00	-94.40	151	9	1.04	R	R	10866	1
11.00	7.11	-94.87	197	8	1.03	F	F	15001	1
10.00	6.41	-94.81	239	7	1.02	R	R	2734	1
9.00	5.67	-93.91	240	7	1.01	F	F	15001	1
8.00	4.15	-91.87	284	6	1.00	F	F	15001	1
7.00	.45	-88.40	342	5	0.99	F	F	15001	1
6.00	-6.30	-86.34	347	5	0.98	F	F	15001	1
5.00	-12.67	-85.45	484	4	0.97	F	F	15001	1
4.00	-15.90	-80.55	562	3	0.96	F	F	15001	1
3.00	-26.55	-84.70	586	3	0.95	R	R	2337	1
2.90	-26.75	-84.40	646	2	0.94	F	F	15001	1
2.80	-27.09	-86.59	652	2	0.93	F	F	15001	1
2.70	-27.93	-84.05	656	2	0.92	F	F	15001	1
2.60	-29.33	-80.75	661	2	0.91	F	F	15001	1
2.50	-30.97	-86.99	667	2	0.90	F	F	15001	1
2.40	-32.22	-83.24	675	2	0.89	F	F	15001	1
2.30	-32.50	-80.05	685	2	0.88	F	F	15001	1
2.20	-35.12	-97.20	691	2	0.87	R	R	5502	1
2.10	-31.65	-43.52	699	2	0.82	F	F	15001	1
2.00	-31.50	-37.25	710	2	0.77	F	F	15001	1
1.90	-30.55	-29.00	726	2	0.72	F	F	15001	1
1.80	-27.78	-22.55	745	2	0.67	F	F	15001	1
1.70	-24.54	-17.11	760	2	0.62	R	R	3348	1
1.60	-14.17	-6.81	786	2	0.57	F	F	15001	1
1.50	-8.26	4.47	975	1	0.52	F	F	15001	1
1.40	2.37	16.24	1024	1	0.47	F	F	15001	1
1.30	25.01	53.71	1150	1	0.42	F	F	15001	1
1.20	11.55	100.94	1060	1	0.37	R	R	3055	1
1.19	.22	278.69	3125	1	0.32	R	R	3249	1
1.10	-5.42	341.64	4484	1	0.27	R	R	3791	1
1.17	-4.20	208.50	3737	1	0.22	R	R	4572	1
1.10	R	R	1761	1	0.17	R	R	5852	1
1.15	17.54	473.40	5040	1	0.12	R	R	8220	1
1.14	4.00	152.44	12701	1	0.07	R	R	14008	1
1.15	17.55	859.67	5040	1	0.02	F	F	15001	1

## CAMBRIDGE, UNITED STATES

GEOGRAPHIC LATITUDE = 41.38 N

GEOGRAPHIC LONGITUDE = 288.88 E

20.00	15.50	-29.60	100	10	1.70	5.69	505.39	5315	1
19.00	13.61	-29.05	100	10	1.69	F	F	15001	1
18.00	11.58	-28.52	100	10	1.68	3.07	242.80	1978	1
17.00	9.45	-28.04	107	10	1.67	5.50	204.39	1868	1
16.00	7.15	-27.60	108	10	1.66	-18.63	276.82	2036	1
15.00	4.79	-27.30	106	10	1.65	F	F	15001	1
14.00	2.40	-27.10	108	10	1.64	R	R	3405	1
13.00	.07	-27.05	154	9	1.63	.58	390.74	3582	1
12.00	-2.00	-27.00	155	9	1.62	F	F	15001	1
11.00	-3.85	-27.14	202	8	1.61	F	F	15001	1
10.00	-5.08	-27.09	247	7	1.60	F	F	15001	1
9.00	-5.67	-26.50	247	7	1.59	F	F	15001	1
8.00	-5.92	-24.74	292	6	1.58	R	R	1826	1
7.00	-7.17	-20.50	351	5	1.57	F	F	15001	1
6.00	-11.84	-13.02	357	5	1.56	F	F	15001	1
5.00	-19.10	-3.70	504	4	1.55	F	F	15001	1
4.00	-14.91	4.25	592	3	1.54	F	F	15001	1
3.00	-17.39	33.10	635	3	1.53	F	F	15001	1
2.90	-15.70	35.85	705	2	1.52	F	F	15001	1
2.80	-13.85	38.19	712	2	1.51	F	F	15001	1
2.70	-11.94	40.74	710	2	1.50	F	F	15001	1
2.60	-9.84	44.31	725	2	1.49	R	R	13127	1
2.50	-7.02	49.75	735	2	1.48	R	R	14257	1
2.40	-2.50	57.40	751	2	1.47	F	F	15001	1
2.30	4.81	67.11	775	2	1.46	R	R	1816	1
2.20	14.30	78.10	800	2	1.45	F	F	15001	1
2.10	22.55	90.97	840	2	1.44	F	F	15001	1
2.00	27.14	109.10	880	2	1.43	F	F	15001	1
1.90	17.04	134.11	1160	1	1.42	F	F	15001	1
1.89	11.30	162.80	1189	1	1.37	R	R	8705	1
1.80	2.95	173.79	1220	1	1.32	F	F	15001	1
1.87	-9.32	190.57	1289	1	1.27	F	F	15001	1
1.80	-20.12	232.55	1414	1	1.22	F	F	15001	1
1.85	-17.97	324.70	2529	1	1.17	R	R	2287	1
1.84	-20.69	204.42	2085	1	1.12	F	F	15001	1
1.80	-4.00	205.60	1727	1	1.07	F	F	15001	1
1.82	16.94	404.44	4255	1	1.05	F	F	15001	1
1.81	5.05	249.20	2210	1	1.00	F	F	15001	1
1.80	27.75	798.21	7275	2	0.95	R	R	14178	1
1.79	8.90	858.25	2929	1	0.90	R	R	8627	1
1.70	H	H	1500	1	0.85	F	F	15001	1
1.77	H	H	1605	1	0.80	F	F	15001	1
1.70	6.40	257.75	2596	1	0.75	R	R	1829	1
1.75	-7.98	259.11	2505	1	0.70	R	R	2033	1
1.74	15.40	773.42	9420	1	0.65	R	R	2110	1
1.75	6.91	373.39	3070	1	0.60	R	R	2027	1
1.72	8.09	209.71	2086	1	0.55	R	R	2039	1
1.71	22.35	401.64	4480	1	0.50	R	R	2184	1

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CAMBRIDGE, UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 41.38 N

GEOGRAPHIC LONGITUDE = 288.88 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
0.45	K	K	2351	1	0.40	R	R	2603	1



## CAPE SCHMIDT, U.S.S.R.

GEOGRAPHIC LATITUDE = 68.87 N

GEOGRAPHIC LONGITUDE = 180.51 E

P	ASYMPTOTIC LAT LONG		NSTEP	SS	P	ASYMPTOTIC LAT LONG		NSTEP	SS
20.00	40.71	-154.25	104	10	0.66	2.50	226.05	3371	1
19.00	39.43	-154.86	104	10	0.65	-4.37	247.06	4361	1
18.00	38.10	-155.56	104	10	0.64	-2.01	640.44	9193	1
17.00	36.75	-156.38	104	10	0.63	R	R	2418	1
16.00	35.39	-157.30	104	10	0.62	5.35	381.74	7291	1
15.00	34.06	-158.31	105	10	0.61	-11.59	226.96	3343	1
14.00	32.83	-159.43	105	10	0.60	-18.88	296.68	4409	1
13.00	31.74	-160.57	149	9	0.59	-9.33	1332.89	94047	1
12.00	30.88	-161.66	149	9	0.58	R	R	3789	1
11.00	30.30	-162.90	195	8	0.57	F	F	32000	1
10.00	29.99	-162.85	237	7	0.56	F	F	32000	1
9.00	29.69	-162.32	237	7	0.55	F	F	32000	1
8.00	28.63	-160.65	280	6	0.54	R	R	3953	1
7.00	25.50	-158.41	337	5	0.53	F	F	32000	1
6.00	19.68	-157.65	340	5	0.52	F	F	32000	1
5.00	14.72	-159.38	472	4	0.51	R	R	3090	1
4.00	12.20	-157.11	546	3	0.50	F	F	15001	1
3.00	2.71	-155.57	563	3	0.49	F	F	15001	1
2.00	-10.14	-147.08	663	2	0.48	F	F	15001	1
1.90	-13.11	-145.70	672	2	0.47	F	F	15001	1
1.80	-14.46	-144.82	681	2	0.46	F	F	15001	1
1.70	-15.28	-142.90	691	2	0.45	F	F	15001	1
1.60	-18.61	-139.64	705	2	0.44	F	F	15001	1
1.50	-21.07	-137.17	852	1	0.43	F	F	15001	1
1.40	-22.39	-133.70	872	1	0.42	F	F	15001	1
1.30	-26.06	-128.06	903	1	0.41	F	F	15001	1
1.20	-27.29	-122.61	934	1	0.40	F	F	15001	1
1.10	-29.17	-113.93	979	1	0.39	F	F	15001	1
1.00	-29.88	-101.11	1038	1	0.38	F	F	15001	1
0.90	-26.19	-84.77	1119	1	0.39	F	F	15001	1
0.80	-15.00	-62.95	1240	1	0.24	F	F	15001	1
0.70	10.98	-31.04	1800	1	0.19	R	R	6097	1
0.64	12.13	6.84	1871	1	0.14	R	R	7826	1
0.68	8.14	27.39	1683	1	0.09	R	R	11947	1
0.67	-0.62	44.78	1765	1	0.04	F	F	15001	1

## CHACALTAYA, BOLIVIA

GEOGRAPHIC LATITUDE = 16.31 S

GEOGRAPHIC LONGITUDE = 291.85 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
15.00	15.21	73.15	143	10	13.08	R	R	1711	1
14.90	15.30	75.54	144	10	13.07	R	R	1599	1
14.80	15.51	78.00	145	10	13.06	R	R	1522	1
14.70	15.54	80.80	147	10	13.05	R	R	1466	1
14.60	15.63	83.60	149	10	13.04	R	R	1424	1
14.50	15.60	86.70	151	10	13.03	P	R	1388	1
14.40	15.44	90.04	153	10	13.02	R	R	1359	1
14.30	15.20	93.55	154	10	13.01	R	R	1334	1
14.20	14.90	97.40	157	10	13.00	R	R	1311	1
14.10	14.44	101.57	160	10	12.99	R	R	1291	1
14.00	13.84	106.13	163	10	12.94	R	R	1211	1
13.90	12.90	111.10	160	10	12.89	R	R	1144	1
13.80	11.79	116.82	170	10	12.84	R	R	1053	1
13.70	10.20	123.20	174	10	12.79	R	R	1037	1
13.60	8.22	130.69	180	10	12.74	R	R	977	1
13.50	5.50	139.64	260	9	12.69	R	R	964	1
13.40	2.09	151.00	275	9	12.64	R	R	936	1
13.30	-2.20	167.00	294	9	12.59	R	R	911	1
13.20	-5.44	194.64	325	9	12.54	R	R	888	1
13.19	-6.60	198.80	1480	1	12.49	R	R	869	1
13.10	-6.70	203.50	1510	1	12.44	R	R	850	1
13.17	-6.62	208.80	1530	1	12.39	R	R	833	1
13.10	-6.30	214.90	1570	1	12.34	R	R	818	1
13.15	-5.70	222.12	1600	1	12.29	R	R	803	1
13.14	-4.87	230.74	1655	1	12.24	R	R	788	1
13.10	-3.53	241.60	1714	1	12.19	R	R	775	1
13.12	-1.85	256.40	1797	1	12.14	R	R	762	1
13.14	-0.84	260.04	1932	1	12.09	R	R	750	1
13.10	-10.82	342.79	2300	1	12.04	R	R	738	1
13.09	N	N	1094	1	11.99	R	R	727	1

## CHAMICAL, ARGENTINA

GEOGRAPHIC LATITUDE = 30.33 S

GEOGRAPHIC LONGITUDE = 293.75 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	1.81	8.81	114	10	11.60	R	R	1271	1
19.00	4.92	13.01	115	10	11.59	R	R	1263	1
18.00	8.44	18.04	117	10	11.58	R	R	1256	1
17.00	12.30	24.20	120	10	11.57	R	R	1253	1
16.00	16.64	32.30	124	10	11.56	R	R	1251	1
15.00	20.94	43.54	129	10	11.55	R	R	1252	1
14.00	23.95	50.37	137	10	11.54	R	R	1257	1
13.00	26.50	57.54	214	9	11.53	R	R	1264	1
12.90	14.30	41.10	217	9	11.52	R	R	1278	1
12.80	17.91	45.02	221	9	11.51	R	R	1298	1
12.70	16.14	44.15	224	9	11.50	R	R	1326	1
12.60	14.02	103.61	229	9	11.49	R	R	1358	1
12.50	11.44	108.44	234	9	11.48	R	R	1394	1
12.40	8.44	113.45	240	9	11.47	R	R	1431	1
12.30	4.92	120.11	240	9	11.46	R	R	1469	1
12.20	.70	127.40	255	9	11.45	R	R	1510	1
12.10	-3.94	136.77	260	9	11.44	R	R	1558	1
12.00	-8.70	149.55	350	8	11.43	R	R	1626	1
11.90	-11.64	164.72	380	8	11.42	R	R	2673	1
11.89	-11.50	172.45	1381	1	11.41	R	R	3297	1
11.80	-11.40	175.30	1395	1	11.40	R	R	2352	1
11.87	-11.00	178.46	1412	1	11.39	R	R	3303	1
11.80	-10.60	181.84	1424	1	11.38	R	R	3068	1
11.80	-4.92	185.47	1448	1	11.37	R	R	1856	1
11.84	-4.00	184.42	1464	1	11.36	R	R	1829	1
11.80	-7.80	143.74	1492	1	11.35	R	R	1819	1
11.82	-6.20	148.51	1510	1	11.34	R	R	1824	1
11.81	-4.35	203.80	1540	1	11.33	R	R	1846	1
11.80	-1.90	209.97	1582	1	11.32	R	R	1890	1
11.74	.90	217.17	1623	1	11.31	R	R	1965	1
11.70	4.20	226.00	1674	1	11.30	-5.34	364.38	3472	1
11.77	7.61	237.50	1734	1	11.29	R	R	3534	1
11.70	4.60	254.17	1832	1	11.28	R	R	2664	1
11.75	3.91	261.55	1496	1	11.27	R	R	981	1
11.74	6.80	405.24	2020	1	11.26	R	R	966	1
11.75	R	R	1892	1	11.25	R	R	955	1
11.72	R	R	1853	1	11.24	R	R	946	1
11.71	-8.37	301.20	3450	1	11.23	R	R	938	1
11.70	R	R	3147	1	11.22	R	R	931	1
11.64	-4.73	253.10	2435	1	11.21	R	R	923	1
11.60	R	R	2784	1	11.20	R	R	917	1
11.67	R	R	1420	1	11.19	R	R	910	1
11.60	R	R	1380	1	11.18	R	R	905	1
11.65	R	R	1351	1	11.17	R	R	899	1
11.64	R	R	1320	1	11.16	R	R	893	1
11.65	R	R	1304	1	11.15	R	R	888	1
11.62	R	R	1294	1	11.14	R	R	883	1
11.61	R	R	1281	1	11.13	R	R	878	1

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CHEMICAL: ARGENTINA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 30.35 S

GEOGRAPHIC LONGITUDE = 293.75 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
11.12	K	K	675	1	10.64	R	R	733	1
11.11	K	K	664	1	10.59	R	R	723	1
11.10	K	K	664	1	10.54	R	R	714	1
11.09	K	K	660	1	10.49	R	R	705	1
11.04	K	K	640	1	10.44	R	R	697	1
11.00	K	K	209	8	10.39	R	R	689	1
10.99	K	K	625	1	10.34	R	R	681	1
10.94	K	K	600	1	10.29	R	R	674	1
10.89	K	K	792	1	10.24	R	R	666	1
10.84	K	K	779	1	10.19	R	R	660	1
10.79	K	K	760	1	10.14	R	R	653	1
10.74	K	K	755	1	10.09	R	R	646	1
10.69	K	K	745	1	10.04	R	R	640	1

## CHICAGO, UNITED STATES

GEOGRAPHIC LATITUDE = 41.83 N

GEOGRAPHIC LONGITUDE = 272.33 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	11.62	-52.46	678	1	1.79	10.42	448.02	4848	1
19.00	9.78	-52.18	681	1	1.78	3.07	877.59	8841	1
18.00	7.82	-51.95	683	1	1.77	8.05	208.58	2156	1
17.00	5.75	-51.79	685	1	1.76	-2.33	1282.93	13535	1
16.00	3.59	-51.71	688	1	1.75	F	F	15001	1
15.00	1.38	-51.72	690	1	1.74	F	F	15001	1
14.00	-0.85	-51.81	108	10	1.73	2.55	219.64	1983	1
13.00	-2.95	-52.00	153	9	1.72	-14.96	258.20	2083	1
12.00	-4.87	-52.25	154	9	1.71	3.01	859.03	8351	1
11.00	-6.44	-52.39	201	8	1.70	-1.58	956.97	11370	1
10.00	-7.52	-52.26	245	7	1.69	.40	521.77	4978	1
9.00	-8.10	-51.38	246	7	1.68	-15.64	532.81	6206	1
8.00	-8.86	-49.05	291	6	1.67	1.71	565.27	5714	1
7.00	-11.13	-44.36	350	5	1.66	F	F	15001	1
6.00	-17.03	-37.15	357	5	1.65	R	R	9840	1
5.00	-24.44	-28.96	504	4	1.64	R	R	1877	1
4.00	-25.09	-19.97	591	3	1.63	R	R	1830	1
3.00	-22.56	10.49	635	3	1.62	F	F	15001	1
2.90	-20.70	12.99	705	2	1.61	F	F	15001	1
2.80	-18.85	15.50	711	2	1.60	F	F	15001	1
2.70	-16.76	18.75	718	2	1.59	R	R	10286	1
2.60	-14.15	23.39	727	2	1.58	F	F	15001	1
2.50	-10.25	29.94	740	2	1.57	F	F	15001	1
2.40	-3.94	58.16	759	2	1.56	R	R	6547	1
2.30	5.23	47.41	786	2	1.55	F	F	15001	1
2.20	15.42	57.68	818	2	1.54	R	R	12146	1
2.10	23.62	70.90	853	2	1.53	R	R	10542	1
2.00	28.59	96.24	906	2	1.52	R	R	3562	1
1.99	28.49	100.56	1086	1	1.51	R	R	1799	1
1.98	28.07	105.40	1097	1	1.50	F	F	15001	1
1.97	27.16	110.92	1111	1	1.49	F	F	15001	1
1.96	25.54	117.21	1124	1	1.48	F	F	15001	1
1.95	22.89	124.34	1140	1	1.47	F	F	15001	1
1.94	18.74	132.55	1173	1	1.46	F	F	15001	1
1.93	12.34	142.29	1206	1	1.41	R	R	2956	1
1.92	2.60	154.92	1253	1	1.36	F	F	15001	1
1.91	-11.30	176.26	1330	1	1.31	R	R	2049	1
1.90	-3.39	250.05	1556	1	1.30	R	R	3682	1
1.89	R	R	5789	1	1.26	F	F	15001	1
1.88	-10.89	252.25	1910	1	1.25	R	R	2194	1
1.87	22.41	424.60	3610	1	1.20	F	F	15001	1
1.86	9.69	243.80	2170	1	1.15	R	R	4136	1
1.85	7.01	195.50	2285	1	1.10	F	F	15001	1
1.84	9.51	227.75	2664	1	1.05	F	F	15001	1
1.83	R	R	1535	1	1.00	R	R	11150	1
1.82	R	R	1557	1	0.95	R	R	4206	1
1.81	-9.32	713.89	8519	1	0.90	F	F	15001	1
1.80	3.90	235.11	2131	2	0.85	F	F	15001	1

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CHICAGO, UNITED STATES

(CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 41.83 N

GEOGRAPHIC LONGITUDE = 272.33 E

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
0.80	H	H	4799	1	0.65	R	R	1814	1
0.75	R	R	5663	1	0.60	R	R	1885	1
0.70	H	H	1737	1	0.55	R	R	2004	1

## CHIMO, CANADA

GEOGRAPHIC LATITUDE = 58.17 N

GEOGRAPHIC LONGITUDE = 291.75 E

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
20.00	44.22	-34.22	103	10	0.37	-21.52	29.4A	1976	1
19.00	43.11	-34.09	103	10	0.36	-20.84	32.03	2020	1
18.00	41.93	-34.07	103	10	0.34	-19.92	34.72	20A6	1
17.00	40.6A	-34.16	103	10	0.34	-18.75	38.33	2150	1
16.00	39.40	-34.40	103	10	0.33	-17.20	41.9A	221A	1
15.00	38.09	-34.78	104	10	0.32	-15.40	45.52	2290	1
14.00	36.81	-35.35	104	10	0.31	-13.16	49.3A	2369	1
13.00	35.61	-36.08	147	9	0.30	-10.21	53.73	2453	1
12.00	34.5A	-36.95	147	9	0.29	-6.39	58.73	2554	1
11.00	33.81	-37.84	192	8	0.2A	-1.47	64.52	2664	1
10.00	33.40	-38.55	234	7	0.27	5.10	71.58	2792	1
9.00	33.30	-38.68	235	7	0.26	13.51	80.37	2943	1
8.00	33.12	-37.75	277	6	0.25	22.97	92.92	3126	1
7.00	31.82	-35.59	332	5	0.24	32.5A	122.00	3403	1
6.00	28.25	-33.62	334	5	0.23	-7.13	1A7.60	4013	1
5.00	24.21	-34.37	462	4	0.22	8.81	248.4A	6362	1
4.00	23.03	-33.41	533	3	0.21	-3.34	995.9A	14126	1
3.00	16.96	-32.07	546	3	0.20	F	F	32000	1
2.00	10.02	-27.66	636	2	0.19	F	F	32000	1
1.90	8.19	-27.22	643	2	0.18	F	F	32000	1
1.80	7.27	-27.3A	651	2	0.17	F	F	15001	1
1.70	6.95	-26.66	659	2	0.16	F	F	15001	1
1.60	5.04	-25.28	670	2	0.15	F	F	15001	1
1.50	3.43	-25.18	806	1	0.14	F	F	15001	1
1.40	2.75	-24.00	A23	1	0.13	F	F	15001	1
1.30	.1A	-22.96	A46	1	0.12	F	F	15001	1
1.20	-.81	-21.63	A71	1	0.11	F	F	15001	1
1.10	-3.14	-20.60	904	1	0.10	F	F	15001	1
1.00	-5.7A	-18.4A	945	1	0.09	F	F	15001	1
0.90	-8.30	-16.14	999	1	0.0A	F	F	15001	1
0.80	-10.79	-13.43	1070	1	0.07	F	F	15001	1
0.70	-14.17	-A.90	1166	1	0.06	F	F	15001	1
0.60	-17.86	-3.07	1302	1	0.05	F	F	15001	1
0.50	-21.1A	6.16	1506	1	0.04	F	F	15001	1
0.40	-22.49	21.87	1A34	1	0.03	F	F	15001	1
0.39	-22.34	24.4A	1A79	1	0.02	F	F	15001	1
0.3A	-21.90	26.38	1A25	1	0.01	F	F	15001	1

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## CHURCHILL, CANADA

GEOGRAPHIC LATITUDE = 54.75 N

GEOGRAPHIC LONGITUDE = 265.91 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	41.92	-71.95	661	1	0.50	-27.87	-42.70	1494	1
19.00	41.02	-72.10	661	1	0.40	-31.42	-26.31	1820	1
18.00	40.08	-72.32	662	1	0.39	-31.39	-24.30	1863	1
17.00	39.11	-72.64	662	1	0.38	-31.45	-21.41	1910	1
16.00	38.12	-73.04	663	1	0.37	-31.16	-18.99	1959	1
15.00	37.12	-73.53	103	10	0.36	-30.81	-16.11	2012	1
14.00	36.16	-74.13	103	10	0.35	-30.28	-12.65	2070	1
13.00	35.27	-74.74	146	9	0.34	-29.45	-9.41	2131	1
12.00	34.48	-75.46	146	9	0.33	-28.30	-6.04	2196	1
11.00	33.84	-76.03	191	8	0.32	-26.78	-2.22	2267	1
10.00	33.31	-76.32	233	7	0.31	-24.74	1.39	2345	1
9.00	32.75	-76.11	233	7	0.30	-22.12	6.46	2430	1
8.00	31.77	-75.23	275	6	0.29	-18.72	11.22	2524	1
7.00	29.68	-74.00	330	5	0.28	-14.37	16.39	2629	1
6.00	26.27	-73.64	332	5	0.27	-8.67	22.27	2748	1
5.00	23.39	-74.75	459	4	0.26	-7.71	29.39	2839	1
4.00	20.97	-73.40	530	3	0.25	9.35	38.01	3047	1
3.00	15.65	-73.28	543	3	0.24	22.62	52.80	3277	1
2.00	7.23	-70.60	632	2	0.23	32.37	89.82	3621	1
1.90	5.98	-70.71	639	2	0.22	-20.20	384.37	7682	1
1.80	5.38	-70.52	647	2	0.21	12.62	379.18	11906	1
1.70	4.21	-69.62	656	2	0.20	F	F	32000	1
1.60	2.23	-69.25	666	2	0.19	F	F	32000	1
1.50	1.27	-69.08	801	1	0.18	F	F	32000	1
1.40	-0.52	-67.92	819	1	0.17	F	F	32000	1
1.30	-2.30	-67.66	841	1	0.16	F	F	15001	1
1.20	-4.41	-66.29	867	1	0.15	F	F	15001	1
1.10	-6.19	-65.47	898	1	0.14	F	F	15001	1
1.00	-8.86	-64.20	940	1	0.13	F	F	15001	1
0.90	-11.71	-62.38	993	1	0.12	F	F	15001	1
0.80	-14.86	-59.77	1063	1	0.11	F	F	15001	1
0.70	-18.94	-56.42	1159	1	0.10	F	F	15001	1
0.60	-23.12	-51.33	1293	1	0.09	F	F	15001	1



## CLIMATE, UNITED STATES

GEOGRAPHIC LATITUDE = 39.37 N

GEOGRAPHIC LONGITUDE = 253.82 E

P	ASYMPTOTIC LAT	LONG	NETEP	SS	P	ASYMPTOTIC LAT	LONG	NETEP	SS
15.00	-12.72	-04.20	110	10	3.09	-5.10	282.48	3502	1
14.00	-15.44	-07.70	111	10	3.08	-11.39	920.07	9496	1
13.00	-18.15	-07.20	159	9	3.07	R	R	5775	1
12.00	-20.50	-06.50	160	9	3.06	-4.62	291.59	3116	1
11.00	-22.47	-05.50	204	8	3.05	-2.63	027.54	4877	1
10.00	-23.71	-04.00	250	7	3.04	R	R	4742	1
9.00	-24.22	-01.64	257	7	3.03	R	R	4214	1
8.00	-24.44	-07.34	304	6	3.02	R	R	12401	1
7.00	-25.94	-04.20	360	5	3.01	F	F	15001	1
6.00	-24.90	-33.70	380	5	3.00	R	R	14576	1
5.00	-27.74	-08.50	557	4	2.99	R	R	3241	1
4.90	-26.40	-08.00	562	4	2.98	-17.18	692.75	5190	1
4.80	-24.84	-3.70	567	4	2.97	R	R	3065	1
4.70	-23.07	-1.40	571	4	2.96	R	R	5452	1
4.60	-21.14	.00	570	4	2.95	R	R	2249	1
4.50	-14.10	2.60	665	3	2.94	-6.35	737.99	7549	1
4.40	-16.94	4.60	669	3	2.93	-8.11	253.38	3059	1
4.30	-14.81	6.60	674	3	2.92	5.14	606.61	6036	1
4.20	-12.50	8.81	679	3	2.91	3.56	1207.26	10312	1
4.10	-10.22	11.27	684	3	2.90	7.39	508.66	5819	1
4.00	-7.67	14.17	689	3	2.89	R	R	2962	1
3.90	-4.70	17.70	690	3	2.88	15.53	867.35	11651	1
3.80	-1.20	22.22	704	3	2.87	F	F	15001	1
3.70	3.37	28.02	710	3	2.86	-6.01	643.74	9626	1
3.60	9.51	35.87	734	3	2.85	R	R	1926	1
3.50	17.71	47.57	761	3	2.84	R	R	1801	1
3.40	28.80	08.90	805	3	2.83	R	R	1787	1
3.30	17.01	118.70	904	3	2.82	R	R	1789	1
3.29	11.32	126.91	1224	1	2.81	R	R	1803	1
3.20	3.00	136.45	1267	1	2.80	R	R	1830	1
3.27	-0.27	151.20	1321	1	2.79	R	R	1850	1
3.20	-15.17	179.04	1410	1	2.78	-13.84	055.78	7657	1
3.20	-25.64	309.80	2034	1	2.77	F	F	15001	1
3.24	-12.40	245.40	2426	1	2.76	F	F	15001	1
3.20	-16.70	312.10	3172	1	2.75	R	R	9988	1
3.22	8.94	109.20	1792	1	2.74	R	R	3532	1
3.21	2.42	328.57	3265	1	2.73	4.35	764.90	9212	1
3.20	15.00	103.60	2114	1	2.72	R	R	11386	1
3.19	-12.50	307.01	3742	1	2.71	F	F	15001	1
3.16	12.81	178.30	2342	1	2.70	F	F	15001	1
3.17	R	R	3332	1	2.69	R	R	7574	1
3.16	R	R	1425	1	2.68	F	F	15001	1
3.15	R	R	1382	1	2.67	R	R	2346	1
3.14	R	R	1365	1	2.66	F	F	15001	1
3.13	R	R	1364	1	2.65	R	R	9194	1
3.12	R	R	1400	1	2.64	R	R	8342	1
3.11	R	R	1454	1	2.63	R	R	7978	1
3.10	-8.10	757.82	7982	1	2.62	R	R	3997	1

CLIMATE UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 39.37 N

GEOGRAPHIC LONGITUDE = 253.82 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
2.61	K	K	11580	1	2.30	F	F	15001	1
2.60	K	K	2331	1	2.25	R	R	4849	1
2.59	F	F	15001	1	2.20	R	R	4006	1
2.58	K	K	13591	1	2.15	R	R	8560	1
2.57	K	K	3178	1	2.10	R	R	1982	1
2.56	K	K	7640	1	2.05	R	R	1986	1
2.55	K	K	14110	1	2.00	R	R	1943	1
2.54	K	K	8945	1	1.95	F	F	15001	1
2.53	F	F	15001	1	1.90	R	R	7393	1
2.52	K	K	1688	1	1.85	F	F	15001	1
2.51	K	K	1705	1	1.80	F	F	15001	1
2.50	K	K	2654	1	1.75	R	R	2379	1
2.49	K	K	5122	1	1.70	R	R	7749	1
2.48	F	F	15001	1	1.65	F	F	15001	1
					1.60	F	F	15001	1

## COLLEGE, UNITED STATES

GEOGRAPHIC LATITUDE = 64.85 N

GEOGRAPHIC LONGITUDE = 212.16 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	37.10	-130.17	103	10	0.65	7.44	-8.15	1500	1
19.00	35.96	-130.76	104	10	0.64	12.72	1.22	1548	1
18.00	34.80	-131.45	104	10	0.63	15.72	10.13	1593	1
17.00	33.63	-132.22	104	10	0.62	17.50	20.99	1643	1
16.00	32.48	-133.10	104	10	0.61	16.30	44.88	1738	1
15.00	31.37	-134.05	104	10	0.60	-5.45	115.45	2028	1
14.00	30.36	-135.02	105	10	0.59	25.33	454.22	5911	1
13.00	29.50	-136.03	148	9	0.58	-20.66	203.95	4250	1
12.00	28.83	-136.90	149	9	0.57	12.13	393.30	6997	1
11.00	28.39	-137.49	194	8	0.56	-1.21	242.26	5366	1
10.00	28.10	-137.55	236	7	0.55	5.01	147.87	3556	1
9.00	27.61	-136.76	236	7	0.54	5.39	854.56	12282	1
8.00	26.17	-135.06	279	6	0.53	F	F	15001	1
7.00	22.66	-133.21	336	5	0.52	F	F	15001	1
6.00	17.02	-133.11	339	5	0.51	F	F	32000	1
5.00	12.94	-135.02	470	4	0.50	F	F	32000	1
4.00	10.13	-132.45	544	3	0.49	F	F	32000	1
3.00	1.46	-131.67	561	3	0.48	F	F	32000	1
2.00	-11.38	-124.32	659	2	0.47	F	F	32000	1
1.90	-14.07	-123.46	668	2	0.46	R	R	3373	1
1.80	-15.07	-122.87	676	2	0.45	F	F	32000	1
1.70	-16.06	-120.96	686	2	0.44	F	F	32000	1
1.60	-19.51	-118.26	700	2	0.43	F	F	15001	1
1.50	-21.57	-116.66	844	1	0.42	F	F	15001	1
1.40	-23.17	-113.38	865	1	0.41	F	F	15001	1
1.30	-26.79	-109.24	893	1	0.40	F	F	15001	1
1.20	-28.39	-104.44	923	1	0.39	F	F	15001	1
1.10	-30.73	-97.98	965	1	0.38	F	F	15001	1
1.00	-32.73	-87.60	1010	1	0.37	F	F	15001	1
0.90	-32.10	-76.30	1091	1	0.36	F	F	15001	1
0.80	-26.67	-57.43	1191	1	0.35	F	F	15001	1
0.70	-9.81	-30.82	1357	1	0.34	F	F	15001	1
0.69	-6.21	-26.97	1383	1	0.33	F	F	15001	1
0.68	-3.52	-26.01	1406	1	0.32	R	R	9061	1
0.67	-1.28	-20.84	1429	1	0.31	F	F	15001	1
0.66	2.12	-15.84	1454	1	0.30	F	F	15001	1

## CORDUBA, ARGENTINA

GEOGRAPHIC LATITUDE = 31.40 S

GEOGRAPHIC LONGITUDE = 295.82 E

P	ASYMPTIC LAT	LONG	NSTEP	SS	P	ASYMPTIC LAT	LONG	NSTEP	SS
20.00	1.85	9.11	113	10	11.42	R	R	1298	1
19.00	4.97	13.12	115	10	11.41	R	R	1284	1
18.00	8.51	17.90	117	10	11.40	R	R	1274	1
17.00	12.48	23.79	120	10	11.39	R	R	1266	1
16.00	16.82	31.41	123	10	11.38	R	R	1260	1
15.00	21.25	41.90	126	10	11.37	R	R	1255	1
14.00	24.57	57.42	135	10	11.36	R	R	1254	1
13.00	22.68	82.07	206	9	11.35	R	R	1254	1
12.90	21.81	85.29	211	9	11.34	R	R	1258	1
12.80	20.72	86.69	214	9	11.33	R	R	1265	1
12.70	19.40	92.26	217	9	11.32	R	R	1276	1
12.60	17.81	96.11	221	9	11.31	R	R	1291	1
12.50	15.89	100.18	224	9	11.30	R	R	1312	1
12.40	13.61	104.56	228	9	11.29	R	R	1337	1
12.30	10.91	109.39	233	9	11.28	R	R	1365	1
12.20	7.72	114.74	239	9	11.27	R	R	1396	1
12.10	3.99	120.87	246	9	11.26	R	R	1428	1
12.00	-3.32	128.10	326	8	11.25	R	R	1463	1
11.90	-5.15	137.47	340	8	11.24	R	R	1503	1
11.80	-6.90	150.36	356	8	11.23	R	R	1549	1
11.70	-12.25	170.77	386	8	11.22	R	R	1616	1
11.69	-12.00	173.52	1381	1	11.21	-7.64	215.13	2581	1
11.60	-11.77	176.46	1397	1	11.20	-9.05	294.30	2926	1
11.67	-11.32	179.59	1415	1	11.19	R	R	2381	1
11.60	-10.68	182.97	1430	1	11.18	R	R	2307	1
11.65	-9.85	186.61	1450	1	11.17	R	R	3336	1
11.64	-8.75	190.56	1471	1	11.16	R	R	1871	1
11.65	-7.35	194.87	1494	1	11.15	R	R	1821	1
11.62	-5.58	199.64	1521	1	11.14	R	R	1867	1
11.61	-3.42	205.00	1551	1	11.13	R	R	1905	1
11.60	-0.81	211.12	1586	1	11.12	R	R	1821	1
11.59	2.20	218.36	1627	1	11.11	R	R	1854	1
11.50	5.72	227.32	1676	1	11.10	R	R	1913	1
11.57	4.07	234.17	1745	1	11.09	R	R	2027	1
11.50	10.51	256.30	1841	1	11.08	R	R	2012	1
11.55	2.41	264.42	2014	1	11.07	R	R	2392	1
11.54	N	N	3271	1	11.06	-18.08	295.48	2511	1
11.55	N	N	1889	1	11.05	-9.14	241.64	2251	1
11.52	N	N	1644	1	11.04	-1.27	222.28	2152	1
11.51	-4.86	319.57	3095	1	11.03	2.57	210.66	2096	1
11.50	N	N	3636	1	11.02	4.17	202.93	2061	1
11.49	-6.70	246.80	2395	1	11.01	R	R	948	1
11.45	-14.82	247.87	2665	1	11.00	R	R	936	1
11.47	N	N	1442	1	10.99	R	R	926	1
11.46	N	N	1386	1	10.98	R	R	919	1
11.45	N	N	1357	1	10.97	R	R	911	1
11.44	N	N	1335	1	10.96	R	R	904	1
11.45	N	N	1314	1	10.95	R	R	898	1

CORDOBA, ARGENTINA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 31.40 S

GEOGRAPHIC LONGITUDE = 295.82 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
10.94	K	K	892	1	10.61	R	R	773	1
10.93	K	K	886	1	10.56	R	R	761	1
10.92	K	K	881	1	10.51	R	R	749	1
10.91	K	K	876	1	10.46	R	R	739	1
10.90	K	K	871	1	10.41	R	R	729	1
10.89	K	K	866	1	10.36	R	R	720	1
10.88	K	K	862	1	10.31	R	R	710	1
10.87	K	K	857	1	10.26	R	R	702	1
10.86	K	K	853	1	10.21	R	R	694	1
10.85	K	K	848	1	10.16	R	R	686	1
10.84	K	K	843	1	10.11	R	R	679	1
10.83	K	K	841	1	10.06	R	R	672	1
10.82	K	K	836	1	10.01	K	K	665	1
10.81	K	K	833	1	9.96	R	R	659	1
10.76	K	K	816	1	9.91	R	R	652	1
10.71	K	K	800	1	9.86	R	R	646	1
10.66	K	K	786	1	9.81	R	R	640	1
					9.76	R	R	634	1

## DALLAS, UNITED STATES

GEOGRAPHIC LATITUDE = 32.78 N

GEOGRAPHIC LONGITUDE = 263.20 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-7.42	-51.73	109	10	4.76	-0.35	146.73	1315	1
19.00	-9.94	-50.53	110	10	4.75	-6.19	153.59	1345	1
18.00	-12.64	-49.22	110	10	4.74	-12.34	162.85	1381	1
17.00	-15.51	-47.77	111	10	4.73	-17.53	176.78	1431	1
16.00	-18.53	-46.13	112	10	4.72	-16.92	199.70	1505	1
15.00	-21.64	-44.23	114	10	4.71	5.87	244.22	1663	1
14.00	-24.73	-42.00	115	10	4.70	-28.60	286.67	2329	1
13.00	-27.62	-39.32	164	9	4.69	13.86	516.06	4702	1
12.00	-30.03	-36.11	167	9	4.68	-24.19	246.76	2651	1
11.00	-31.60	-32.35	220	8	4.67	-7.31	285.08	2639	1
10.00	-31.91	-28.07	270	7	4.66	-16.68	248.00	2245	1
9.00	-30.68	-23.19	273	7	4.65	11.64	156.45	1945	1
8.00	-28.00	-16.80	325	6	4.64	-0.43	149.09	1931	1
7.00	-24.06	-5.82	397	5	4.63	-1.97	192.88	2074	1
6.00	-15.29	16.65	420	5	4.62	3.23	272.89	3233	1
5.90	-13.45	19.88	582	4	4.61	7.85	225.86	2400	1
5.80	-11.23	23.35	589	4	4.60	.60	151.20	2168	1
5.70	-8.56	27.05	597	4	4.59	8.08	384.41	3836	1
5.60	-5.36	31.03	606	4	4.58	15.19	171.31	2371	1
5.50	-1.52	35.34	616	4	4.57	16.08	226.86	2558	1
5.40	3.05	40.10	628	4	4.56	9.22	160.14	2495	1
5.30	8.47	45.59	643	4	4.55	3.63	357.62	3367	1
5.20	14.75	52.26	660	4	4.54	R	R	1590	1
5.10	21.69	61.18	683	4	4.53	R	R	1442	1
5.00	28.29	74.46	1064	1	4.52	R	R	1425	1
4.99	28.83	76.16	1069	1	4.51	R	R	1421	1
4.98	29.33	77.94	1074	1	4.50	R	R	1421	1
4.97	29.79	79.82	1080	1	4.49	R	R	1424	1
4.96	30.19	81.80	1086	1	4.48	R	R	1429	1
4.95	30.52	83.88	1092	1	4.47	R	R	1436	1
4.94	30.78	86.05	1098	1	4.46	R	R	1446	1
4.93	30.96	88.34	1105	1	4.45	R	R	1611	1
4.92	31.03	90.75	1112	1	4.44	7.24	365.39	5635	1
4.91	30.94	93.25	1119	1	4.43	13.29	194.75	2748	1
4.90	30.82	95.87	1126	1	4.42	20.08	420.39	5464	1
4.89	30.60	98.61	1134	1	4.41	19.16	482.70	6390	1
4.88	30.02	101.46	1143	1	4.40	.49	238.28	2617	1
4.87	29.34	104.42	1152	1	4.39	-3.60	225.58	2587	1
4.86	28.46	107.44	1162	1	4.38	6.93	382.17	4860	1
4.85	27.31	110.60	1172	1	4.37	-6.33	222.49	3007	1
4.84	25.90	113.93	1182	1	4.36	-4.53	277.85	3153	1
4.83	24.16	117.31	1194	1	4.35	-0.60	502.05	5075	1
4.82	22.12	120.73	1206	1	4.34	5.83	207.96	2409	1
4.81	19.66	124.40	1219	1	4.33	14.93	436.57	4388	1
4.80	16.77	128.18	1234	1	4.32	R	R	2508	1
4.79	13.38	132.16	1251	1	4.31	R	R	6254	1
4.78	9.43	136.45	1269	1	4.30	-5.37	261.25	2986	1
4.77	4.87	141.20	1290	1	4.29	R	R	3879	1

DALLAS, UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 32.76 N

GEOGRAPHIC LONGITUDE = 263.20 E

P	ASYMPTOTIC LAT LONG		NSTEP	SS	P	ASYMPTOTIC LAT LONG		NSTEP	SS
4.26	H	R	4704	1	3.82	R	R	3352	1
4.27	H	H	8657	1	3.81	R	R	14115	1
4.26	H	H	13958	1	3.80	-1.42	954.17	14854	1
4.25	H	H	4171	1	3.79	F	F	15001	1
4.24	H	H	10997	1	3.78	R	R	3935	1
4.23	1.86	949.95	9417	1	3.77	R	R	8930	1
4.22	H	R	4406	1	3.76	R	R	2440	1
4.21	-6.63	655.65	6209	1	3.75	R	R	4295	1
4.20	H	H	3306	1	3.74	R	R	8204	1
4.19	H	R	3111	1	3.73	R	R	4457	1
4.18	-12.95	654.09	7524	1	3.72	R	R	3746	1
4.17	H	R	12791	1	3.71	R	R	3239	1
4.16	-12.60	347.61	4443	1	3.70	R	R	4182	1
4.15	H	R	2294	1	3.69	R	R	10596	1
4.14	H	H	2339	1	3.68	R	R	2481	1
4.13	H	R	6409	1	3.67	R	R	2410	1
4.12	H	R	10271	1	3.66	R	R	7009	1
4.11	-1.42	361.42	3807	1	3.65	R	R	3138	1
4.10	H	R	2751	1	3.64	R	R	4177	1
4.09	F	F	15001	1	3.63	R	R	6611	1
4.08	H	H	6284	1	3.62	R	R	14823	1
4.07	H	H	6786	1	3.61	R	R	8321	1
4.06	R	H	3614	1	3.60	F	F	15001	1
4.05	-14.12	711.17	8464	1	3.59	R	R	7112	1
4.04	H	R	3531	1	3.58	R	R	1755	1
4.03	F	F	15001	1	3.49	R	R	1691	1
4.02	H	R	3742	1	3.48	R	R	2419	1
4.01	H	H	12674	1	3.39	F	F	15001	1
4.00	H	R	1933	1	3.34	R	R	3176	1
3.99	H	H	1883	1	3.29	F	F	15001	1
3.98	H	H	1838	1	3.24	R	R	1776	1
3.97	H	R	1488	1	3.19	R	R	13801	1
3.96	H	R	1796	1	3.14	F	F	15001	1
3.95	H	R	1794	1	3.09	R	R	1912	1
3.94	H	H	1796	1	3.04	R	R	3400	1
3.93	H	R	1806	1	2.99	R	R	1899	1
3.92	H	H	1818	1	2.94	F	F	15001	1
3.91	R	R	1819	1	2.89	R	R	3241	1
3.90	H	R	1837	1	2.84	R	R	1986	1
3.89	R	R	1958	1	2.79	R	R	2020	1
3.88	F	F	15001	1	2.74	R	R	1923	1
3.87	R	H	8612	1	2.69	R	R	2014	1
3.86	F	F	15001	1	2.64	F	F	15001	1
3.85	H	H	6917	1	2.59	R	R	3599	1
3.84	H	R	8806	1	2.54	R	R	9732	1
3.83	R	H	2723	1	1.85	R	R	864	2

## DECEPTION, ANTARCTICA

GEOGRAPHIC LATITUDE = 62.48 S

GEOGRAPHIC LONGITUDE = 299.28 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-21.77	-5.80	100	10	3.50	R	R	1366	1
19.00	-18.94	-5.75	109	10	3.49	R	R	1366	1
18.00	-15.84	-5.67	110	10	3.48	R	R	1369	1
17.00	-12.47	-5.67	111	10	3.47	R	R	1374	1
16.00	-8.80	-5.72	112	10	3.46	R	R	1380	1
15.00	-4.85	-5.82	113	10	3.45	R	R	1387	1
14.00	-1.60	-5.90	115	10	3.44	R	R	1396	1
13.00	3.83	-5.91	164	4	3.43	R	R	1405	1
12.00	8.30	-5.69	167	4	3.42	R	R	1416	1
11.00	12.50	-5.00	219	8	3.41	R	R	1428	1
10.00	15.89	-3.72	271	7	3.40	R	R	1575	1
9.00	17.75	-1.47	274	7	3.39	R	R	5014	1
8.00	17.74	1.51	320	6	3.38	0.20	490.13	4588	1
7.00	16.70	7.39	395	5	3.37	R	P	5233	1
6.00	18.60	18.60	390	5	3.36	4.49	566.68	7425	1
5.00	25.38	47.94	585	4	3.35	R	R	3739	1
4.90	25.12	53.05	592	4	3.34	R	R	12536	1
4.80	24.25	58.67	601	4	3.33	F	F	15001	1
4.70	22.52	64.77	611	4	3.32	-15.51	670.44	7024	1
4.60	19.80	71.32	624	4	3.31	R	R	6768	1
4.50	15.95	78.27	732	3	3.30	4.10	914.02	11148	1
4.40	10.92	85.77	751	3	3.29	R	R	4146	1
4.30	4.84	94.14	774	3	3.28	R	R	4586	1
4.20	-1.62	104.30	801	3	3.27	R	R	12832	1
4.10	-7.41	117.61	834	3	3.26	R	R	8247	1
4.00	-9.64	136.67	870	3	3.25	R	R	6289	1
3.90	-1.85	156.35	944	3	3.24	R	R	2861	1
3.80	-5.30	208.67	1185	3	3.23	R	R	14446	1
3.70	-14.04	262.24	1552	3	3.22	R	R	5141	1
3.69	-12.01	302.50	2624	1	3.21	R	R	6478	1
3.60	-9.50	345.97	3355	1	3.20	R	R	4094	1
3.67	2.54	347.20	4435	1	3.19	-2.76	894.65	9919	1
3.60	-14.34	259.92	2171	1	3.18	R	R	6186	1
3.65	4.65	358.90	2550	1	3.17	R	R	6862	1
3.64	-4.41	268.34	2842	1	3.16	F	F	15001	1
3.65	-13.04	264.54	2440	1	3.15	R	R	6458	1
3.62	R	R	3702	1	3.14	F	F	15001	1
3.61	.25	576.85	4732	1	3.13	R	R	1910	1
3.60	8.84	377.00	3487	1	3.12	R	R	1838	1
3.59	R	R	7695	1	3.11	R	R	1882	1
3.58	1.60	448.04	5407	1	3.10	R	R	8834	1
3.57	R	R	1480	1	3.09	R	R	15922	1
3.56	R	R	1450	1	3.08	R	R	14618	1
3.55	R	R	1425	1	3.07	R	R	6825	1
3.54	R	R	1394	1	3.06	F	F	15001	1
3.53	R	R	1385	1	3.05	R	R	6223	1
3.52	R	R	1374	1	3.04	F	F	15001	1
3.51	R	R	1368	1	3.03	R	R	6482	1



DECEPTION: ANTARCTICA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 62.98 S

GEOGRAPHIC LONGITUDE = 299.28 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
3.02	F	F	15001	1	2.80	F	F	15001	1
3.01	F	F	15001	1	2.75	F	F	15001	1
3.00	K	K	2393	1	2.70	R	R	6877	1
2.99	K	K	8657	1	2.65	R	R	5807	1
2.98	K	K	7294	1	2.60	R	R	6907	1
2.97	K	K	10590	1	2.55	F	F	15001	1
2.96	F	F	15001	1	2.50	R	R	9605	1
2.95	K	K	1924	1	2.45	F	F	15001	1
2.94	F	K	1750	1	2.40	R	R	3311	1
2.93	K	K	1714	1	2.35	R	R	10287	1
2.92	K	K	1717	1	2.30	F	F	15001	1
2.91	K	K	1630	1	2.25	K	R	5353	1
2.90	F	F	15001	1	2.20	R	R	3905	1
2.89	F	F	15001	1	2.15	R	R	6653	1
2.88	K	K	8653	1	2.10	R	R	2051	1
2.87	K	K	8510	1	2.05	R	R	3124	1
2.86	K	K	8336	1	2.00	F	F	15001	1
2.85	K	K	5649	1	1.95	R	R	1246	1
2.84	K	K	4622	1	1.90	R	R	1124	1
2.83	K	K	6551	1	1.85	R	R	1126	1
2.82	K	K	8005	1	1.80	R	R	1236	1
2.81	F	F	15001	1	1.75	R	R	9557	1
					0.91	R	R	344	1

## DEEP RIVER, CANADA

GEOGRAPHIC LATITUDE = 46.10 N

GEOGRAPHIC LONGITUDE = 282.50 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	22.22	-42.14	672	1	1.09	-12.62	372.52	4503	1
19.00	20.62	-41.89	673	1	1.08	R	R	2099	1
18.00	18.91	-41.72	675	1	1.07	-5.57	326.10	3559	1
17.00	17.12	-41.64	677	1	1.06	-21.02	641.14	6954	1
16.00	15.25	-41.67	679	1	1.05	2.74	474.31	5355	1
15.00	13.34	-41.81	106	10	1.04	19.13	485.40	4985	1
14.00	11.43	-42.11	106	10	1.03	1.97	357.94	2975	1
13.00	9.61	-42.52	151	9	1.02	F	F	15001	1
12.00	7.98	-43.04	151	9	1.01	-17.52	279.94	2278	1
11.00	6.66	-43.56	197	8	1.00	R	R	2928	1
10.00	5.77	-43.85	241	7	0.99	1.06	1268.36	12163	1
9.00	5.26	-43.53	241	7	0.98	F	F	15001	1
8.00	4.67	-42.00	284	6	0.97	F	F	15001	1
7.00	2.61	-38.73	342	5	0.96	R	R	11314	1
6.00	-2.70	-34.43	346	5	0.95	F	F	15001	1
5.00	-9.64	-31.64	483	4	0.94	F	F	15001	1
4.00	-11.89	-28.06	562	3	0.93	F	F	15001	1
3.00	-20.66	-15.64	586	3	0.92	F	F	15001	1
2.90	-20.74	-14.72	647	2	0.91	F	F	15001	1
2.80	-20.68	-13.49	650	2	0.90	F	F	15001	1
2.70	-20.75	-11.67	653	2	0.89	F	F	15001	1
2.60	-21.24	-9.04	657	2	0.88	F	F	15001	1
2.50	-22.14	-5.63	663	2	0.87	F	F	15001	1
2.40	-23.29	-1.90	670	2	0.86	F	F	15001	1
2.30	-23.91	1.49	678	2	0.85	F	F	15001	1
2.20	-23.71	4.04	686	2	0.84	F	F	15001	1
2.10	-22.93	6.43	694	2	0.83	F	F	15001	1
2.00	-22.24	10.44	702	2	0.82	R	R	4051	1
1.90	-21.57	16.97	716	2	0.81	F	F	15001	1
1.80	-19.71	23.65	733	2	0.80	F	F	15001	1
1.70	-16.83	28.06	749	2	0.79	R	R	2441	1
1.60	-13.41	34.64	766	2	0.78	F	F	15001	1
1.50	-6.21	45.73	947	1	0.75	F	F	15001	1
1.40	2.30	54.33	986	1	0.70	R	R	4365	1
1.30	15.70	72.44	1057	1	0.65	F	F	15001	1
1.20	28.74	112.54	1181	1	0.60	R	R	5669	1
1.19	28.07	118.68	1198	1	0.55	R	R	10880	1
1.18	26.52	126.13	1216	1	0.50	R	R	7684	1
1.17	23.32	135.82	1246	1	0.45	R	R	5089	1
1.16	16.42	147.65	1283	1	0.40	R	R	14791	1
1.15	4.06	164.75	1343	1	0.35	R	R	3161	1
1.14	-18.59	205.73	1477	1	0.30	R	R	3506	1
1.13	-1.54	307.76	3901	1	0.25	R	R	4171	1
1.12	-6.23	300.37	1820	1	0.20	R	R	5100	1
1.11	-13.14	309.45	2912	1	0.15	R	R	6731	1
1.10	3.60	248.20	2668	1	0.10	R	R	10014	1

## DENVER, UNITED STATES

GEOGRAPHIC LATITUDE = 39.75 N

GEOGRAPHIC LONGITUDE = 255.00 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	1.04	-09.64	107	10	3.05	.95	374.72	2759	1
19.00	-1.11	-09.20	106	10	3.04	7.83	170.31	2228	1
18.00	-3.40	-08.92	106	10	3.03	-8.81	385.63	4012	1
17.00	-5.90	-08.57	104	10	3.02	9.37	467.61	4581	1
16.00	-8.50	-08.24	104	10	3.01	R	R	1495	1
15.00	-11.20	-07.91	110	10	3.00	R	R	1400	1
14.00	-13.93	-07.57	110	10	2.99	R	R	1381	1
13.00	-16.52	-07.17	150	9	2.98	R	R	1377	1
12.00	-18.80	-06.64	154	9	2.97	R	R	1384	1
11.00	-20.74	-05.80	200	8	2.96	R	R	1403	1
10.00	-21.97	-04.60	254	7	2.95	R	R	1437	1
9.00	-22.50	-02.40	255	7	2.94	4.87	573.99	7840	1
8.00	-22.94	-00.40	302	6	2.93	F	F	15001	1
7.00	-24.72	-00.80	360	5	2.92	-3.71	1091.11	14238	1
6.00	-29.41	-06.60	370	5	2.91	-9.97	609.24	6405	1
5.00	-29.80	-13.77	540	4	2.90	-1.32	517.22	5831	1
4.90	-28.94	-11.47	550	4	2.89	R	R	4070	1
4.80	-27.80	-9.30	550	4	2.88	R	R	6988	1
4.70	-26.57	-7.20	560	4	2.87	R	R	6804	1
4.60	-25.10	-5.30	560	4	2.86	R	R	8285	1
4.50	-23.62	-3.40	644	3	2.85	R	R	7716	1
4.40	-22.00	-1.60	654	3	2.84	F	F	15001	1
4.30	-20.32	.10	657	3	2.83	-16.64	330.52	3391	1
4.20	-18.57	2.10	661	3	2.82	23.33	852.91	7617	1
4.10	-16.74	4.34	664	3	2.81	R	R	6136	1
4.00	-14.70	6.94	664	3	2.80	F	F	15001	1
3.90	-12.47	10.00	670	3	2.79	F	F	15001	1
3.80	-9.72	13.90	680	3	2.78	-10.84	1090.25	13691	1
3.70	-6.21	18.60	684	3	2.77	F	F	15001	1
3.60	-1.44	24.62	702	3	2.76	F	F	15001	1
3.50	5.00	32.22	714	3	2.75	R	R	10308	1
3.40	13.87	42.70	740	3	2.74	F	F	15001	1
3.30	24.60	60.34	780	3	2.73	1.59	366.07	4205	1
3.20	26.70	78.62	860	3	2.72	R	R	2368	1
3.10	24.70	104.34	1152	1	2.71	R	R	3363	1
3.10	21.89	110.60	1172	1	2.70	R	R	13097	1
3.17	17.93	117.32	1194	1	2.69	0.26	1242.15	13908	1
3.10	12.61	124.80	1221	1	2.68	R	R	10467	1
3.10	5.62	133.54	1250	1	2.67	0.50	1167.35	11782	1
3.14	-3.20	145.21	1300	1	2.66	-0.50	931.08	9959	1
3.10	-13.04	164.34	1370	1	2.65	F	F	15001	1
3.12	-9.38	209.02	1514	1	2.64	F	F	15001	1
3.11	-10.64	411.60	3090	1	2.63	R	R	1865	1
3.10	-11.45	611.34	5030	1	2.62	R	R	1778	1
3.04	8.87	508.40	5430	1	2.61	R	R	1777	1
3.00	7.40	104.01	1770	1	2.60	R	R	1900	1
3.07	-24.00	308.60	2294	1	2.59	F	F	15001	1
3.00	2.02	407.10	3240	1	2.58	F	F	15001	1

DENVER, UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 39.75 N

GEOGRAPHIC LONGITUDE = 255.00 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
2.57	K	K	8761	1	2.29	R	R	4146	1
2.56	K	K	12956	1	2.24	F	F	15001	1
2.55	K	K	12254	1	2.19	R	R	1862	1
2.54	F	F	15001	1	2.14	R	R	9719	1
2.53	K	K	4021	1	2.09	F	F	15001	1
2.52	F	F	15001	1	2.04	R	R	4528	1
2.51	K	K	10434	1	1.99	R	R	3477	1
2.50	F	F	15001	1	1.94	R	R	8546	1
2.49	K	K	2333	1	1.89	R	R	3150	1
2.48	K	K	5360	1	1.84	R	R	5583	1
2.47	K	K	13451	1	1.79	R	R	5405	1
2.46	K	K	6117	1	1.74	R	R	2211	1
2.45	K	K	5279	1	1.69	R	R	5741	1
2.44	F	F	15001	1	1.64	R	F	4217	1
2.43	K	K	1818	1	1.59	F	F	15001	1
2.42	K	K	1721	1	1.54	R	R	2227	1
2.41	K	K	1717	1	1.49	R	R	2343	1
2.40	K	K	1931	1	1.44	R	R	1327	1
2.39	F	F	15001	1	1.39	R	R	1257	1
2.38	K	K	10326	1	1.34	R	R	2701	1
					0.50	R	R	1987	1

## DUMONT DUVILLE, ANTARCTICA

GEOGRAPHIC LATITUDE = 66.67 S

GEOGRAPHIC LONGITUDE = 140.02 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-66.03	154.45	102	10	1.50	-50.81	171.03	774	1
19.00	-65.89	154.97	102	10	1.40	-50.25	171.37	790	1
18.00	-65.73	155.52	102	10	1.30	-49.57	171.64	809	1
17.00	-65.55	156.09	102	10	1.20	-48.87	172.02	833	1
16.00	-65.34	156.70	102	10	1.10	-48.10	172.35	863	1
15.00	-65.10	157.33	102	10	1.00	-47.21	172.73	901	1
14.00	-64.83	157.96	102	10	0.90	-46.21	173.14	949	1
13.00	-64.51	158.60	144	9	0.80	-45.02	173.59	1013	1
12.00	-64.15	159.30	144	9	0.70	-43.68	174.06	1099	1
11.00	-63.75	160.09	189	8	0.60	-42.04	174.56	1220	1
10.00	-63.24	160.85	230	7	0.50	-40.05	175.09	1397	1
9.00	-62.68	161.57	230	7	0.40	-37.48	175.71	1676	1
8.00	-62.03	162.30	272	6	0.30	-33.99	176.41	2160	1
7.00	-61.31	163.04	326	5	0.20	-28.77	177.08	3159	1
6.00	-60.51	163.91	327	5	0.10	-19.24	177.32	6227	1
5.00	-59.48	165.10	450	4	0.09	-17.77	177.25	6914	1
4.00	-58.02	166.20	519	3	0.08	-16.13	177.12	7774	1
3.00	-56.12	167.85	530	3	0.07	-14.28	176.93	8882	1
2.00	-53.18	169.76	614	2	0.06	-12.18	176.62	10359	1
1.90	-52.75	170.04	620	2	0.05	-9.78	176.16	12430	1
1.80	-52.30	170.24	627	2	0.04	F	F	15001	1
1.70	-51.87	170.48	635	2	0.03	F	F	15001	1
1.60	-51.30	170.82	645	2	0.02	F	F	15001	1
					0.01	F	F	15001	1

## DUNSHINK, IRELAND

GEOGRAPHIC LATITUDE = 53.38 N

GEOGRAPHIC LONGITUDE = 353.67 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	26.02	43.00	100	10	2.24	14.15	449.75	3043	1
19.00	23.99	43.57	107	10	2.23	7.38	387.34	3211	1
18.00	21.81	44.01	107	10	2.22	F	F	15001	1
17.00	19.49	44.42	108	10	2.21	R	R	1409	1
16.00	17.00	44.74	108	10	2.20	R	R	1406	1
15.00	14.52	45.01	109	10	2.19	3.65	601.79	5326	1
14.00	11.95	45.22	109	10	2.18	R	R	2864	1
13.00	9.44	45.30	150	9	2.17	-11.23	348.17	2781	1
12.00	7.15	45.51	157	9	2.16	-1.82	563.93	4663	1
11.00	5.20	45.60	205	8	2.15	-13.21	362.37	2676	1
10.00	4.02	46.07	250	7	2.14	-0.77	397.71	2418	1
9.00	3.57	47.02	251	7	2.13	7.11	446.45	3061	1
8.00	3.64	49.30	297	6	2.12	13.67	408.04	2905	1
7.00	2.81	54.10	350	5	2.11	-9.59	352.60	2452	1
6.00	-1.85	62.70	363	5	2.10	-17.52	967.48	6061	1
5.00	-10.15	75.02	519	4	2.09	-13.82	337.40	2036	1
4.00	-10.02	87.20	619	3	2.08	9.46	440.71	3248	1
3.90	-9.55	88.80	621	3	2.07	R	R	2107	1
3.80	-9.20	90.60	623	3	2.06	-3.41	620.38	4783	1
3.70	-8.95	92.92	625	3	2.05	F	F	15001	1
3.60	-8.70	95.77	629	3	2.04	F	F	15001	1
3.50	-8.65	99.29	633	3	2.03	-3.39	1113.05	13022	1
3.40	-8.40	103.50	636	3	2.02	R	R	10261	1
3.30	-8.01	108.67	640	3	2.01	9.72	860.41	7210	1
3.20	-6.91	114.54	655	3	2.00	R	R	8975	1
3.10	-4.80	121.05	667	3	1.99	F	F	15001	1
3.00	-1.55	127.89	749	2	1.98	R	R	1763	1
2.90	2.67	134.81	767	2	1.97	R	R	1740	1
2.80	7.08	141.67	784	2	1.96	R	R	1816	1
2.70	10.89	148.70	801	2	1.95	R	R	5252	1
2.60	13.84	157.12	819	2	1.94	R	R	11420	1
2.50	16.29	169.60	843	2	1.93	-19.18	1410.61	13734	1
2.40	16.98	193.92	892	2	1.92	F	F	15001	1
2.39	16.52	197.60	1060	1	1.91	F	F	15001	1
2.30	15.80	201.80	1080	1	1.90	R	R	8174	1
2.37	14.72	206.51	1092	1	1.89	F	F	15001	1
2.30	13.10	211.70	1107	1	1.88	F	F	15001	1
2.30	10.95	217.55	1124	1	1.87	F	R	2288	1
2.34	7.70	224.19	1145	1	1.86	F	R	6296	1
2.35	3.20	232.0	1171	1	1.85	F	F	15001	1
2.32	-3.14	241.00	1205	1	1.84	R	R	2342	1
2.31	-10.30	255.17	1253	1	1.83	F	F	15001	1
2.30	-23.99	260.10	1334	1	1.82	F	F	15001	1
2.29	3.45	304.27	1622	1	1.81	F	F	15001	1
2.20	-2.75	500.72	4639	1	1.80	R	R	5445	1
2.27	16.00	414.09	2525	1	1.79	R	R	1680	1
2.20	20.11	444.35	2904	1	1.78	R	R	12876	1
2.25	-2.22	353.55	2125	1	1.77	R	R	14756	1

DONSINK, IRELAND (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 53.36 N

GEOGRAPHIC LONGITUDE = 353.67 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
1.76	F	F	15001	1	1.31	R	R	2316	1
1.75	F	F	15001	1	1.26	F	F	15001	1
1.74	K	K	5749	1	1.21	R	R	13551	1
1.73	K	K	4481	1	1.16	R	R	4855	1
1.72	K	K	3809	1	1.11	F	F	15001	1
1.71	F	F	15001	1	1.06	F	F	15001	1
1.60	F	F	15001	1	1.01	R	R	1503	1
1.61	K	K	1960	1	0.96	F	F	15001	1
1.56	K	K	1902	1	0.91	R	R	1649	1
1.51	F	F	15001	1	0.86	R	R	1527	1
1.46	F	F	15001	1	0.81	R	R	1604	1
1.41	K	K	2152	1	0.76	R	R	1636	1
1.36	F	F	15001	1	0.71	R	R	1643	1

## DURHAM, UNITED STATES

GEOGRAPHIC LATITUDE = 43.10 N

GEOGRAPHIC LONGITUDE = 269.16 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
50.00	38.84	-46.94	102	10	2.90	-20.72	19.83	679	2
49.00	38.63	-46.55	102	10	2.80	-19.87	21.60	684	2
48.00	38.41	-46.14	102	10	2.70	-18.91	23.71	688	2
47.00	38.17	-45.72	102	10	2.60	-17.94	26.83	694	2
46.00	37.91	-45.29	103	10	2.50	-16.85	31.48	702	2
45.00	37.64	-44.85	103	10	2.40	-15.17	37.59	712	2
44.00	37.36	-44.39	103	10	2.30	-12.20	44.27	726	2
43.00	37.05	-43.93	103	10	2.20	-7.96	50.07	743	2
42.00	36.72	-43.45	103	10	2.10	-3.64	54.48	757	2
41.00	36.38	-42.95	103	10	2.00	.51	59.75	773	2
40.00	36.00	-42.45	103	10	1.90	7.13	69.82	798	2
39.00	35.61	-41.93	103	10	1.80	19.71	88.48	845	2
38.00	35.18	-41.40	103	10	1.70	28.35	121.16	919	2
37.00	34.72	-40.86	103	10	1.69	27.98	125.17	1099	1
36.00	34.23	-40.30	103	10	1.68	27.29	129.32	1109	1
35.00	33.71	-39.73	103	10	1.67	26.24	133.62	1121	1
34.00	33.14	-39.15	103	10	1.66	24.81	138.08	1133	1
33.00	32.53	-38.55	103	10	1.65	22.90	142.82	1146	1
32.00	31.88	-37.95	103	10	1.64	20.41	147.93	1161	1
31.00	31.17	-37.33	103	10	1.63	17.16	153.57	1178	1
30.00	30.41	-36.70	103	10	1.62	12.85	159.99	1198	1
29.00	29.59	-36.07	103	10	1.61	7.00	167.73	1224	1
28.00	28.70	-35.43	104	10	1.60	-1.08	177.98	1259	1
27.00	27.73	-34.78	104	10	1.59	-12.15	194.57	1312	1
26.00	26.69	-34.14	104	10	1.58	-19.47	236.68	1424	1
25.00	25.58	-33.50	104	10	1.57	-7.36	379.21	3025	1
24.00	24.33	-32.87	104	10	1.56	-5.98	258.21	2095	1
23.00	23.01	-32.24	105	10	1.55	-1.37	206.52	1770	1
22.00	21.57	-31.64	105	10	1.54	-5.79	342.43	3085	1
21.00	20.01	-31.07	105	10	1.53	5.00	222.09	2185	1
20.00	18.34	-30.53	105	10	1.52	5.73	344.27	3783	1
19.00	16.53	-30.03	106	10	1.51	R	R	1654	1
18.00	14.60	-29.60	106	10	1.50	R	R	1602	1
17.00	12.54	-29.25	106	10	1.49	-7.70	276.88	2797	1
16.00	10.38	-28.98	107	10	1.48	-2.76	301.80	3279	1
15.00	8.15	-28.82	107	10	1.47	3.57	233.18	2280	1
14.00	5.89	-28.78	108	10	1.46	7.37	221.43	2104	1
13.00	3.70	-28.88	109	9	1.45	14.41	465.01	4175	1
12.00	1.69	-29.11	109	9	1.44	-9.29	295.16	2478	1
11.00	.04	-29.37	201	8	1.43	5.59	210.57	1880	1
10.00	-1.07	-29.51	245	7	1.42	-17.45	265.35	2027	1
9.00	-1.62	-29.14	245	7	1.41	R	R	2369	1
8.00	-1.93	-27.90	284	6	1.40	R	R	9867	1
7.00	-3.37	-23.63	348	5	1.39	-4.33	331.25	2414	1
6.00	-6.30	-17.29	353	5	1.38	3.45	772.75	5724	1
5.00	15.90	10.60	490	4	1.37	F	F	15001	1
4.00	17.60	4.77	580	3	1.36	-5.26	603.29	4923	1
3.00	-21.31	17.93	613	3	1.35	R	R	1935	1



DURHAM, UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 43.10 N

GEOGRAPHIC LONGITUDE = 289.16 E

P	ASYMPTOTIC LAT	LONG	NETEP	SS	P	ASYMPTOTIC LAT	LONG	NETEP	SS
1.34	F	F	15001	1	1.12	R	R	12072	1
1.35	F	F	15001	1	1.07	F	F	15001	1
1.36	K	K	10241	1	1.02	F	F	15001	1
1.31	F	F	15001	1	1.00	R	R	11308	1
1.30	F	F	15001	1	0.97	F	F	15001	1
1.29	K	K	0502	1	0.92	F	F	15001	1
1.26	F	F	15001	1	0.87	F	F	15001	1
1.27	F	F	15001	1	0.82	F	F	15001	1
1.20	F	F	15001	1	0.77	F	F	15001	1
1.25	F	F	15001	1	0.72	F	F	15001	1
1.24	K	K	1910	1	0.70	F	F	15001	1
1.25	K	K	4301	1	0.65	F	F	15001	1
1.22	F	F	15001	1	0.60	F	F	15001	1
1.21	F	F	15001	1	0.55	R	R	2106	1
1.20	F	F	15001	1	0.50	R	R	2400	1
1.19	F	F	15001	1	0.45	R	R	2419	1
1.10	K	K	7127	1	0.40	R	R	2674	1
1.17	K	K	8077	1	0.35	R	R	2955	1
1.10	F	F	15001	1	0.30	R	R	3370	1

## ELLSWORTH, ANTARCTICA

GEOGRAPHIC LATITUDE = 77.72 S

GEOGRAPHIC LONGITUDE = 318.88 E

20.00	-41.23	1.91	100	10	0.83	3.18	1293.97	12923	1
19.00	-39.50	.84	106	10	0.82	1.08	539.17	5222	1
18.00	-37.70	-.30	107	10	0.81	F	F	15001	1
17.00	-35.84	-1.70	107	10	0.80	14.84	487.81	4965	1
16.00	-33.95	-3.34	107	10	0.79	13.30	1160.17	12550	1
15.00	-32.07	-5.10	108	10	0.78	-3.12	647.55	5539	1
14.00	-30.28	-7.00	106	10	0.77	R	R	3236	1
13.00	-28.67	-9.15	154	9	0.76	F	F	15001	1
12.00	-27.40	-11.34	150	9	0.75	F	F	15001	1
11.00	-26.67	-13.40	201	8	0.74	F	F	15001	1
10.00	-26.64	-15.10	246	7	0.73	F	F	15001	1
9.00	-27.35	-15.79	246	7	0.72	F	F	15001	1
8.00	-28.19	-14.51	290	6	0.71	F	F	15001	1
7.00	-27.10	-10.82	347	5	0.70	F	F	15001	1
6.00	-21.14	-6.90	350	5	0.69	R	R	10507	1
5.00	-11.67	-7.70	491	4	0.68	R	R	5787	1
4.00	-10.21	-8.60	571	3	0.67	F	F	15001	1
3.00	2.74	-2.20	591	3	0.66	F	F	15001	1
2.00	13.62	8.52	700	2	0.65	F	F	15001	1
1.90	14.78	11.40	708	2	0.64	F	F	15001	1
1.80	18.78	15.90	720	2	0.63	F	F	15001	1
1.70	21.74	19.72	735	2	0.62	F	F	15001	1
1.60	21.34	22.11	749	2	0.61	R	R	6521	1
1.50	23.49	28.40	908	1	0.60	R	R	3153	1
1.40	25.90	37.51	941	1	0.59	F	F	15001	1
1.30	24.86	43.15	970	1	0.58	F	F	15001	1
1.20	24.02	59.30	1025	1	0.57	F	F	15001	1
1.10	19.99	71.27	1078	1	0.52	F	F	15001	1
1.00	7.48	94.76	1178	1	0.47	F	F	15001	1
0.90	-6.34	101.30	1423	1	0.42	F	F	15001	1
0.89	-3.70	170.80	1458	1	0.37	F	F	15001	1
0.88	.94	185.61	1510	1	0.32	F	F	15001	1
0.87	10.57	222.61	1633	1	0.27	R	R	4283	1
0.86	-3.85	311.76	2588	1	0.22	R	R	5234	1
0.85	-13.11	244.90	2265	1	0.17	R	R	6321	1
0.84	-9.51	622.48	7633	1	0.12	R	R	8911	1

## FREETOWN, SIERRA LEONE

GEOGRAPHIC LATITUDE =

8.50 N

GEOGRAPHIC LONGITUDE =

346.72 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	5.80	83.48	120	10	14.26	-13.17	299.73	1758	1
19.00	4.30	91.32	123	10	14.25	-16.78	315.93	1852	1
18.00	2.56	101.14	128	10	14.24	-17.76	343.74	2008	1
17.00	0.69	114.11	134	10	14.23	21.28	438.04	2609	1
16.00	-0.75	133.16	145	10	14.22	R	R	1816	1
15.90	-0.82	135.63	146	10	14.21	R	R	1649	1
15.80	-0.85	138.26	148	10	14.20	R	R	1551	1
15.70	-0.85	141.06	150	10	14.19	R	R	1483	1
15.60	-0.81	144.09	152	10	14.18	R	R	1431	1
15.50	-0.72	147.31	154	10	14.17	R	R	1390	1
15.40	-0.57	150.78	156	10	14.16	R	R	1355	1
15.30	-0.35	154.57	158	10	14.15	R	R	1326	1
15.20	-0.06	158.73	161	10	14.14	R	R	1300	1
15.10	0.34	163.35	164	10	14.13	R	R	1277	1
15.00	0.84	168.50	168	10	14.12	R	R	1256	1
14.90	1.48	174.35	172	10	14.11	R	R	1237	1
14.80	2.25	181.14	177	10	14.10	R	R	1219	1
14.70	3.16	189.23	183	10	14.09	R	R	1202	1
14.60	4.14	199.21	190	10	14.08	R	R	1187	1
14.55	4.58	205.27	1237	1	14.07	R	R	1173	1
14.54	4.65	206.59	1243	1	14.06	R	R	1160	1
14.53	4.72	207.96	1250	1	14.05	R	R	1147	1
14.52	4.79	209.37	1257	1	14.04	R	R	1135	1
14.51	4.85	210.83	1264	1	14.03	R	R	1123	1
14.50	4.89	212.34	127	1	14.02	R	R	1112	1
14.49	4.93	213.91	1280	1	14.00	R	R	170	10
14.48	4.95	215.54	1288	1	13.97	R	R	1064	1
14.47	4.96	217.23	1296	1	13.92	R	R	1023	1
14.46	4.95	219.00	1305	1	13.87	R	R	986	1
14.45	4.93	220.84	1314	1	13.82	R	R	954	1
14.44	4.88	222.76	1324	1	13.77	R	R	927	1
14.43	4.80	224.77	1335	1	13.72	R	R	902	1
14.42	4.69	226.86	1345	1	13.67	R	R	879	1
14.41	4.54	229.11	1357	1	13.62	R	R	858	1
14.40	4.35	231.45	1369	1	13.57	R	R	839	1
14.39	4.11	233.93	1382	1	13.52	R	R	822	1
14.38	3.81	236.55	1396	1	13.47	R	R	806	1
14.37	3.44	239.35	1411	1	13.42	R	R	791	1
14.36	2.99	242.35	1427	1	13.37	R	R	777	1
14.35	2.43	245.56	1445	1	13.32	R	R	764	1
14.34	1.75	249.04	1464	1	13.27	R	R	752	1
14.33	0.92	252.83	1485	1	13.22	R	R	740	1
14.32	-0.04	256.96	1508	1	13.17	R	R	729	1
14.31	-1.32	261.61	1535	1	13.12	R	R	718	1
14.30	-2.84	266.81	1565	1	13.07	R	R	707	1
14.29	-4.70	272.76	1600	1	13.02	R	R	697	1
14.28	-6.99	279.53	1641	1	12.97	R	R	688	1
14.27	-9.80	288.48	1653	1	12.92	R	R	678	1

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FREETOWN, SIERRA LEONE

(CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 8.50 N

GEOGRAPHIC LONGITUDE = 346.72 E

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
12.87	R	R	670	1	12.67	R	R	637	1
12.86	R	R	660	1	12.62	R	R	629	1
12.77	R	R	652	1	12.57	R	R	622	1
12.76	R	R	644	1	12.52	R	R	614	1
					12.47	R	R	607	1

## FROBISHER BAY, CANADA

GEOGRAPHIC LATITUDE = 63.75 N      GEOGRAPHIC LONGITUDE = 291.43 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	53.70	-36.07	103	10	1.50	24.56	-34.08	789	1
19.00	52.80	-35.90	103	10	1.40	23.79	-33.13	805	1
18.00	51.90	-35.90	103	10	1.30	22.22	-33.32	826	1
17.00	50.98	-36.00	103	10	1.20	21.24	-32.38	850	1
16.00	49.97	-36.30	103	10	1.10	20.01	-32.43	881	1
15.00	48.95	-36.80	103	10	1.00	18.11	-31.98	920	1
14.00	47.94	-37.42	103	10	0.90	16.29	-31.37	970	1
13.00	47.02	-38.22	140	9	0.80	14.51	-30.51	1036	1
12.00	46.23	-39.15	140	9	0.70	11.58	-29.60	1125	1
11.00	45.60	-40.14	191	8	0.60	8.73	-28.59	1251	1
10.00	45.42	-40.95	232	7	0.50	5.00	-27.03	1436	1
9.00	45.43	-41.21	232	7	0.40	.34	-24.64	1726	1
8.00	45.43	-40.41	274	6	0.30	-6.63	-21.03	2233	1
7.00	44.52	-38.43	324	5	0.20	-17.11	-12.82	3290	1
6.00	41.81	-36.82	331	5	0.10	-30.95	25.81	6669	1
5.00	38.80	-38.01	450	4	0.09	-28.47	38.73	7478	1
4.00	38.14	-37.29	520	3	0.08	-17.65	50.43	8578	1
3.00	33.94	-37.00	530	3	0.07	F	F	15001	1
2.00	28.80	-34.39	625	2	0.06	F	F	15001	1
1.90	27.50	-34.50	631	2	0.05	F	F	15001	1
1.80	27.22	-34.92	636	2	0.04	F	F	15001	1
1.70	26.88	-34.21	640	2	0.03	F	F	15001	1
1.60	25.31	-33.64	657	2	0.02	F	F	15001	1
					0.01	F	F	15001	1

## GOOSE BAY, CANADA

GEOGRAPHIC LATITUDE = 53.33 N

GEOGRAPHIC LONGITUDE = 299.58 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	35.75	-21.04	104	10	0.67	14.56	94.35	1412	1
19.00	34.31	-20.82	104	10	0.66	17.26	96.04	1437	1
18.00	32.77	-20.66	104	10	0.65	19.13	101.64	1462	1
17.00	31.15	-20.60	105	10	0.64	21.50	107.16	1491	1
16.00	29.46	-20.69	105	10	0.63	25.03	116.50	1534	1
15.00	27.73	-20.95	105	10	0.62	27.72	128.51	1585	1
14.00	26.01	-21.39	105	10	0.61	27.70	139.38	1633	1
13.00	24.34	-21.98	149	9	0.60	25.24	151.30	1686	1
12.00	22.95	-22.74	150	9	0.59	13.97	174.31	1784	1
11.00	21.47	-23.56	195	8	0.58	-23.09	254.92	2138	1
10.00	21.26	-24.24	238	7	0.57	-18.26	665.63	6925	1
9.00	21.13	-24.35	238	7	0.56	1.29	239.42	2801	1
8.00	21.07	-25.26	281	6	0.55	26.65	468.77	4987	1
7.00	19.79	-20.50	337	5	0.54	-22.07	349.50	3999	1
6.00	15.42	-17.13	340	5	0.53	-3.64	347.84	4744	1
5.00	9.43	-16.39	472	4	0.52	-18.44	242.06	3449	1
4.00	7.97	-15.14	547	3	0.51	R	R	3717	1
3.00	-4.3	-10.03	563	3	0.50	F	F	32000	1
2.00	-7.41	-3.34	661	2	0.49	F	F	32000	1
1.90	-9.44	2.21	669	2	0.48	F	F	32000	1
1.80	-11.45	3.92	679	2	0.47	F	F	32000	1
1.70	-12.17	4.95	689	2	0.46	F	F	15001	1
1.60	-12.93	7.88	701	2	0.45	F	F	15001	1
1.50	-15.39	11.61	847	1	0.44	F	F	15001	1
1.40	-15.65	13.68	867	1	0.43	F	F	15001	1
1.30	-17.27	19.13	894	1	0.42	F	F	15001	1
1.20	-17.54	22.89	925	1	0.41	F	F	15001	1
1.10	-18.46	30.60	967	1	0.40	F	F	15001	1
1.00	-17.52	34.32	1014	1	0.39	F	F	15001	1
0.90	-14.90	48.34	1047	1	0.38	F	F	15001	1
0.80	-8.15	62.86	1184	1	0.37	F	F	15001	1
0.79	-6.94	64.47	1201	1	0.36	F	F	15001	1
0.78	-5.84	65.65	1213	1	0.35	F	F	15001	1
0.77	-4.99	66.77	1225	1	0.34	F	F	15001	1
0.76	-4.09	68.33	1237	1	0.33	F	F	15001	1
0.75	-2.83	70.66	1252	1	0.32	F	F	15001	1
0.74	-1.02	73.53	1269	1	0.31	F	F	15001	1
0.73	1.13	76.30	1287	1	0.26	R	R	7152	1
0.72	3.15	78.48	1305	1	0.21	F	F	15001	1
0.71	4.64	80.17	1321	1	0.16	R	R	7337	1
0.70	6.04	82.18	1337	1	0.11	R	R	10020	1
0.69	8.04	85.39	1358	1	0.06	F	F	15001	1
0.68	11.04	89.76	1383	1	0.01	F	F	15001	1

## GÖTTINGEN, GERMANY

GEOGRAPHIC LATITUDE = 51.52 N.

GEOGRAPHIC LONGITUDE = 9.93 E

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS
20.00	20.25	00.01	107	10	3.05	0.43	867.61	8113	1
19.00	18.00	00.70	108	10	3.04	R	R	14700	1
18.00	15.70	01.30	108	10	3.03	-9.48	556.53	3370	1
17.00	13.20	02.00	109	10	3.02	R	R	3692	1
16.00	10.50	02.70	109	10	3.01	R	R	4524	1
15.00	7.80	03.30	110	10	3.00	-14.85	1113.62	10375	1
14.00	5.00	04.10	111	10	2.99	3.25	608.11	3878	1
13.00	2.27	04.90	158	9	2.98	-8.31	337.26	2094	1
12.00	-0.23	05.82	160	9	2.97	-2.83	518.65	4509	1
11.00	-2.29	06.91	209	8	2.96	R	R	2164	1
10.00	-3.65	08.30	250	7	2.95	16.37	471.10	4353	1
9.00	-4.15	10.40	258	7	2.94	15.81	791.25	7309	1
8.00	-4.00	13.90	300	6	2.93	0.10	502.83	4599	1
7.00	-4.54	00.40	369	5	2.92	R	R	6272	1
6.00	-8.17	42.97	379	5	2.91	R	R	3813	1
5.00	-11.10	116.15	554	4	2.90	-15.24	722.51	5786	1
4.00	4.10	147.07	696	3	2.89	R	R	1776	1
3.90	5.92	151.12	705	3	2.88	R	R	1759	1
3.80	7.73	155.99	713	3	2.87	R	R	1925	1
3.70	9.62	162.12	722	3	2.86	R	R	14383	1
3.60	11.71	170.32	736	3	2.85	F	F	15001	1
3.50	13.96	181.99	756	3	2.84	3.47	564.29	5734	1
3.40	15.30	200.36	790	3	2.83	F	F	15001	1
3.30	0.90	234.60	861	3	2.82	R	R	14136	1
3.29	4.12	239.95	1151	1	2.81	R	R	5521	1
3.20	5.50	245.90	1171	1	2.80	-10.25	585.30	5136	1
3.27	-4.05	253.09	1197	1	2.79	R	R	2467	1
3.20	-9.95	262.00	1229	1	2.78	R	R	7951	1
3.25	-17.35	274.45	1273	1	2.77	R	R	14084	1
3.24	-25.19	295.62	1340	1	2.76	F	F	15001	1
3.25	-17.92	342.80	1480	1	2.75	R	R	8423	1
3.22	13.60	409.30	3129	1	2.74	R	R	2511	1
3.21	-6.80	390.61	2465	1	2.73	R	R	2522	1
3.20	17.77	470.42	3305	1	2.72	R	R	7609	1
3.19	-12.19	327.20	1855	1	2.71	F	F	15001	1
3.10	1.59	898.67	8624	1	2.70	R	R	10466	1
3.17	-0.05	344.64	2145	1	2.69	R	R	7442	1
3.10	15.75	528.66	2860	1	2.68	R	R	2885	1
3.15	14.52	402.67	3231	1	2.67	R	R	3506	1
3.14	8.92	576.05	5476	1	2.66	R	R	2834	1
3.15	R	R	1381	1	2.65	F	F	15001	1
3.12	R	R	1323	1	2.64	F	F	15001	1
3.11	R	R	1315	1	2.63	R	R	3370	1
3.10	R	R	1325	1	2.62	F	F	15001	1
3.09	R	R	1361	1	2.61	R	R	7736	1
3.00	13.42	412.90	3400	1	2.60	R	R	11450	1
3.07	6.70	490.65	3512	1	2.59	R	R	2980	1
3.00	R	R	15001	1	2.58	F	F	15001	1

GOTTINGEN, GERMANY (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 51.52 N

GEOGRAPHIC LONGITUDE = 9.93 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
2.51	K		14778	1	2.24	F	F	15001	1
2.50	K	K	3920	1	2.19	R	R	9567	1
2.50	F	F	15001	1	2.14	F	F	15001	1
2.54	K	K	3921	1	2.09	R	R	8245	1
2.53	F	F	15001	1	2.04	F	F	15001	1
2.52	F	F	15001	1	2.00	R	R	8359	2
2.51	K	K	1629	1	1.99	R	R	7726	1
2.50	K	K	1687	1	1.94	R	R	2023	1
2.49	K	K	1653	1	1.89	R	R	2030	1
2.48	K	K	1648	1	1.84	F	F	15001	1
2.47	K	K	1674	1	1.79	R	R	3012	1
2.46	F	F	15001	1	1.74	R	R	13925	1
2.45	F	F	15001	1	1.69	F	F	15001	1
2.44	F	F	15001	1	1.64	R	R	1263	1
2.43	F	F	15001	1	1.59	R	R	1196	1
2.42	K	K	3845	1	1.54	R	R	1405	1
2.41	F	F	15001	1	1.49	R	R	2506	1
2.40	K	K	10499	1	1.44	F	F	15001	1
2.39	K	K	4570	1	1.39	R	R	1273	1
2.34	K	K	8684	1	1.34	R	R	1165	1
2.29	K	K	7326	1	0.50	R	R	1940	1



## MAFELEKAR, AUSTRIA

GEOGRAPHIC LATITUDE = 47.32 N

GEOGRAPHIC LONGITUDE = 11.37 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	13.42	05.59	106	10	4.58	-7.00	365.35	3042	1
19.00	10.90	06.75	109	10	4.57	3.95	484.05	4011	1
18.00	8.31	07.95	110	10	4.56	R	R	10045	1
17.00	5.40	09.25	110	10	4.55	R	R	1439	1
16.00	2.40	10.69	112	10	4.54	R	R	1364	1
15.00	-.67	12.31	113	10	4.53	R	R	1335	1
14.00	-3.83	14.19	114	10	4.52	R	R	1323	1
13.00	-6.88	16.44	164	9	4.51	R	R	1316	1
12.00	-9.50	19.14	166	9	4.50	R	R	1313	1
11.00	-11.52	22.37	210	8	4.49	R	R	1313	1
10.00	-12.37	26.25	269	7	4.48	R	R	1316	1
9.00	-11.83	30.84	272	7	4.47	R	R	1320	1
8.00	-10.00	36.91	325	6	4.46	R	R	1329	1
7.00	-8.00	40.90	390	5	4.45	R	R	1343	1
6.00	-5.50	42.94	415	5	4.44	R	R	1427	1
5.90	-4.90	43.20	575	4	4.43	R	R	4278	1
5.80	-4.17	43.92	581	4	4.42	13.47	470.43	3589	1
5.70	-3.14	43.97	587	4	4.41	23.79	481.37	3538	1
5.60	-1.70	43.47	594	4	4.40	-12.55	348.23	2973	1
5.50	-.02	43.55	603	4	4.39	R	R	2653	1
5.40	2.23	44.20	613	4	4.38	20.23	419.48	3750	1
5.30	5.05	45.91	620	4	4.37	10.33	392.23	3044	1
5.20	8.40	48.82	641	4	4.36	R	R	9719	1
5.10	12.29	48.67	660	4	4.35	R	R	2576	1
5.00	15.85	49.70	685	4	4.34	-9.44	356.15	2392	1
4.90	16.60	49.55	721	4	4.33	13.70	407.19	3351	1
4.80	6.23	49.25	1175	1	4.32	5.41	470.74	4245	1
4.79	3.71	49.00	1184	1	4.31	-1.90	365.81	2829	1
4.78	.72	47.22	1205	1	4.30	R	R	9121	1
4.77	-2.78	45.84	1225	1	4.29	-2.60	384.19	3075	1
4.76	-6.91	45.04	1243	1	4.28	R	R	5541	1
4.75	-11.74	43.37	1266	1	4.27	-9.48	356.80	2737	1
4.74	-17.27	41.32	1297	1	4.26	R	R	3494	1
4.73	-23.24	40.41	1330	1	4.25	-3.27	731.22	5599	1
4.72	-28.14	39.72	1384	1	4.24	-6.11	334.45	2178	1
4.71	-34.79	38.31	1470	1	4.23	-7.89	318.45	2132	1
4.70	-43.25	36.30	1784	1	4.22	-12.92	335.59	2189	1
4.69	-1.60	40.25	2058	1	4.21	R	R	4204	1
4.68	R	R	1084	1	4.20	0.61	533.71	5848	1
4.67	-7.55	41.52	2533	1	4.19	6.55	427.72	4086	1
4.66	4.04	42.10	7242	1	4.18	R	R	2167	1
4.65	-3.84	314.94	1955	1	4.17	R	R	9808	1
4.64	-15.90	311.81	1950	1	4.16	R	R	4551	1
4.63	-1.89	405.22	2814	1	4.15	R	R	4470	1
4.62	-9.22	345.85	2703	1	4.14	R	R	2605	1
4.61	-1.35	350.04	2342	1	4.13	R	R	3559	1
4.60	13.14	454.41	3494	1	4.12	R	R	5164	1
4.59	R	R	2611	1	4.11	R	R	3770	1

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HAPELENAKI, AUSTRIA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 47.32 N

GEOGRAPHIC LONGITUDE = 11.37 E

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
4.10	K	K	4912	1	3.64	F	F	15001	1
4.09	K	K	11661	1	3.63	R	R	2306	1
4.08	8.75	505.97	6072	1	3.62	R	R	6788	1
4.07	K	K	12761	1	3.61	R	R	13629	1
4.06	K	K	5612	1	3.60	R	R	5998	1
4.05	7.45	808.15	8162	1	3.59	R	R	4009	1
4.04	K	K	6632	1	3.58	R	R	13698	1
4.03	K	K	1869	1	3.57	R	R	2444	1
4.02	K	K	1807	1	3.56	R	R	10328	1
4.01	K	K	1784	1	3.55	F	F	15001	1
4.00	K	K	1765	1	3.54	F	F	15001	1
3.99	K	K	1759	1	3.53	R	R	5507	1
3.98	K	K	1760	1	3.52	R	R	7615	1
3.97	K	K	1768	1	3.51	R	R	9669	1
3.96	K	K	1782	1	3.50	R	R	1736	1
3.95	K	K	1805	1	3.49	R	R	1668	1
3.94	K	K	1835	1	3.48	R	R	1641	1
3.93	K	K	6081	1	3.47	R	R	1624	1
3.92	-6.60	1158.67	13131	1	3.46	R	R	1619	1
3.91	K	K	12268	1	3.45	R	R	1632	1
3.90	5.89	811.95	7139	1	3.44	R	R	1666	1
3.89	K	K	5089	1	3.43	R	R	7304	1
3.88	K	K	9501	1	3.42	R	R	14308	1
3.87	K	K	11487	1	3.41	R	R	6440	1
3.86	K	K	10646	1	3.36	R	R	2860	1
3.85	K	K	8926	1	3.31	F	F	15001	1
3.84	-7.54	1356.54	13060	1	3.26	F	F	15001	1
3.83	K	K	3349	1	3.21	R	R	7019	1
3.82	F	F	15001	1	3.16	R	R	1885	1
3.81	F	F	15001	1	3.11	R	R	10805	1
3.80	F	F	15001	1	3.06	R	R	2768	1
3.79	K	K	10200	1	3.01	R	R	8754	1
3.78	K	K	13457	1	2.96	R	R	1901	1
3.77	K	K	3155	1	2.91	R	R	2742	1
3.76	K	K	14620	1	2.86	R	R	840	1
3.75	K	K	5395	1	2.81	R	R	9074	1
3.74	K	K	2477	1	2.76	R	R	3225	1
3.73	K	K	2365	1	2.71	R	R	2332	1
3.72	K	K	2366	1	2.66	R	R	2268	1
3.71	K	K	4438	1	2.61	R	R	11119	1
3.70	K	K	4779	1	2.56	R	R	8708	1
3.69	K	K	4616	1	2.51	R	R	3857	1
3.68	F	F	15001	1	2.46	R	R	4138	1
3.67	K	K	3707	1	2.41	R	R	9860	1
3.66	K	K	2462	1	2.36	R	R	6709	1
3.65	F	F	15001	1	1.72	R	R	828	2
					1.52	R	R	791	2

## HALEAKALA, UNITED STATES

GEOGRAPHIC LATITUDE = 20.71 N

GEOGRAPHIC LONGITUDE = 203.74 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-23.45	287.85	119	10	13.24	R	R	1459	1
19.00	-25.55	295.08	122	10	13.23	R	R	1419	1
18.00	-27.11	304.19	126	10	13.22	R	R	1386	1
17.00	-27.41	315.91	131	10	13.21	R	R	1359	1
16.00	-24.85	331.01	138	10	13.20	R	R	1334	1
15.00	-16.02	350.42	150	10	13.19	R	R	1313	1
14.90	-14.55	353.25	152	10	13.18	R	R	1293	1
14.80	-12.95	355.67	154	10	13.17	R	R	1275	1
14.70	-11.14	358.25	156	10	13.16	R	R	1258	1
14.60	-9.17	.91	158	10	13.15	R	R	1241	1
14.50	-7.00	3.77	161	10	13.14	R	R	1226	1
14.40	-4.62	6.80	163	10	13.13	R	R	1212	1
14.30	-1.99	10.08	166	10	13.12	R	R	1198	1
14.20	.90	13.72	170	10	13.11	R	R	1185	1
14.10	4.08	17.77	174	10	13.10	R	R	1171	1
14.00	7.57	22.41	178	10	13.09	R	R	1160	1
13.90	11.37	27.90	183	10	13.08	R	R	1105	1
13.80	15.45	34.68	189	10	13.07	R	R	1105	1
13.70	19.54	43.50	197	10	13.06	R	R	226	9
13.60	23.12	55.68	207	10	12.99	R	R	1061	1
13.50	24.35	73.64	311	9	12.94	R	R	1023	1
13.40	16.88	102.45	345	9	12.89	R	R	990	1
13.39	15.00	106.36	1573	1	12.84	R	R	962	1
13.38	12.79	110.66	1596	1	12.79	R	R	937	1
13.37	10.14	115.36	1626	1	12.74	R	R	913	1
13.36	7.12	120.64	1658	1	12.69	R	R	892	1
13.35	3.52	126.75	1696	1	12.64	R	R	872	1
13.34	-0.65	134.12	1742	1	12.59	R	R	854	1
13.33	-5.33	143.62	1800	1	12.54	R	R	836	1
13.32	-9.97	157.10	1876	1	12.49	R	R	821	1
13.31	-11.85	179.22	2002	1	12.44	R	R	805	1
13.30	3.28	227.32	2291	1	12.39	R	R	790	1
13.29	N	N	2405	1	12.34	R	R	777	1
13.28	N	N	1816	1	12.29	R	R	764	1
13.27	N	N	1753	1	12.24	R	R	752	1
13.26	N	N	1690	1	12.19	R	R	741	1
13.25	N	N	1611	1	12.14	R	R	729	1
					12.09	R	R	718	1
					12.04	R	R	709	1

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## HEISS ISLAND, U.S.S.R.

GEOGRAPHIC LATITUDE = 80.33 N

GEOGRAPHIC LONGITUDE = 57.80 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	69.11	96.49	102	10	1.50	40.67	101.73	787	1
19.00	68.64	96.17	102	10	1.40	38.94	102.45	805	1
18.00	68.16	95.79	102	10	1.30	38.09	102.28	825	1
17.00	67.68	95.35	102	10	1.20	36.19	103.04	850	1
16.00	67.21	94.90	103	10	1.10	35.05	103.54	880	1
15.00	66.77	94.41	103	10	1.00	33.29	103.77	919	1
14.00	66.36	93.96	103	10	0.90	31.20	104.39	969	1
13.00	65.99	93.61	145	9	0.80	28.67	105.45	1036	1
12.00	65.65	93.49	145	9	0.70	25.74	106.06	1126	1
11.00	65.32	93.79	190	8	0.60	22.38	107.38	1252	1
10.00	64.89	94.63	231	7	0.50	17.95	109.15	1439	1
9.00	64.15	96.11	231	7	0.40	11.92	112.02	1733	1
8.00	62.80	97.83	273	6	0.30	3.77	116.60	2245	1
7.00	60.60	98.72	326	5	0.20	-9.49	126.54	3326	1
6.00	58.32	97.70	330	5	0.10	19.58	266.83	7877	1
5.00	57.10	96.65	454	4	0.09	F	F	15001	1
4.00	54.54	99.43	524	3	0.08	F	F	15001	1
3.00	51.27	99.14	536	3	0.07	F	F	15001	1
2.00	44.57	100.84	623	2	0.06	F	F	15001	1
1.90	44.04	100.46	630	2	0.05	F	F	15001	1
1.80	43.66	100.99	637	2	0.04	F	F	15001	1
1.70	42.40	101.77	645	2	0.03	F	F	15001	1
1.60	41.12	101.43	656	2	0.02	F	F	15001	1
					0.01	F	F	15001	1

## HEKIMANUS, SOUTH AFRICA

GEOGRAPHIC LATITUDE = 34.42 S

GEOGRAPHIC LONGITUDE = 19.22 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
15.00	16.40	09.02	111	10	4.98	20.73	448.44	2643	1
14.00	20.10	12.21	112	10	4.97	8.34	381.23	2969	1
13.00	24.04	16.30	161	9	4.96	21.51	449.45	4133	1
12.00	27.87	01.69	164	9	4.95	R	R	2635	1
11.00	31.13	08.90	210	8	4.94	R	R	4038	1
10.00	32.81	08.67	272	7	4.93	-3.46	390.08	3559	1
9.00	31.20	110.70	281	7	4.92	7.51	879.54	9211	1
8.00	24.60	124.10	345	6	4.91	R	R	1394	1
7.00	12.13	138.72	434	5	4.90	R	R	1340	1
6.90	10.50	140.42	437	5	4.89	R	R	1289	1
6.80	8.97	142.21	440	5	4.88	R	R	1261	1
6.70	7.31	144.10	443	5	4.87	R	R	1248	1
6.60	5.60	146.10	440	5	4.86	R	R	1239	1
6.50	3.84	148.31	449	5	4.85	R	R	1234	1
6.40	2.00	150.70	453	5	4.84	R	R	1230	1
6.30	.17	153.32	457	5	4.83	R	R	1229	1
6.20	-1.74	156.24	461	5	4.82	R	R	1231	1
6.10	-3.71	159.54	460	5	4.81	R	R	1235	1
6.00	-5.72	163.32	647	4	4.80	R	R	1241	1
5.90	-7.70	167.70	654	4	4.79	R	R	1250	1
5.80	-9.70	172.92	664	4	4.78	R	R	1261	1
5.70	-11.60	179.20	670	4	4.77	R	R	1274	1
5.60	-13.20	187.10	689	4	4.76	R	R	1289	1
5.50	-14.10	197.42	707	4	4.75	R	R	1310	1
5.40	-13.34	211.40	732	4	4.74	R	R	2989	1
5.30	-8.70	232.41	771	4	4.73	5.69	414.10	3473	1
5.20	3.41	276.17	850	4	4.72	R	R	2684	1
5.19	4.10	285.10	1329	1	4.71	R	R	3901	1
5.10	3.70	296.67	1360	1	4.70	R	R	4345	1
5.17	.60	312.52	1410	1	4.69	R	R	2503	1
5.10	-4.41	338.32	1500	1	4.68	R	R	12781	1
5.10	8.02	430.40	1622	1	4.67	R	R	4500	1
5.14	-6.10	374.82	2201	1	4.66	10.77	475.77	4320	1
5.10	2.51	374.40	2644	1	4.65	13.71	734.31	6505	1
5.12	K	K	1550	1	4.64	R	R	2354	1
5.11	K	K	1670	1	4.63	R	R	3681	1
5.10	-1.30	345.50	2503	1	4.62	R	R	14937	1
5.09	-8.80	330.50	2300	1	4.61	F	F	15001	1
5.00	1.87	490.82	4157	1	4.60	7.09	809.04	9839	1
5.07	5.80	396.80	2640	1	4.59	R	R	2564	1
5.00	-18.14	320.00	2000	1	4.58	R	R	2858	1
5.00	-13.10	293.21	1917	1	4.57	-4.50	514.84	5811	1
5.04	-10.37	308.91	1962	1	4.56	R	R	9305	1
5.00	K	K	2447	1	4.55	R	R	7938	1
5.02	K	K	3280	1	4.54	R	R	3217	1
5.01	K	K	14730	1	4.53	R	R	2243	1
5.00	K	K	2464	1	4.52	R	R	2168	1
4.99	-19.90	320.94	2209	1	4.51	R	R	3063	1

HELMANUS, SOUTH AFRICA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 34.42 S

GEOGRAPHIC LONGITUDE = 19.22 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.50	K	K	5304	1	4.02	R	R	5309	1
4.49	K	K	3700	1	4.01	R	R	10639	1
4.48	K	K	5346	1	4.00	R	R	2246	1
4.47	7.74	929.65	11653	1	3.99	R	R	3222	1
4.46	K	K	9012	1	3.98	R	R	13733	1
4.45	K	K	7313	1	3.97	R	R	8032	1
4.44	K	K	3713	1	3.96	R	R	10470	1
4.43	K	K	1741	1	3.95	F	F	15001	1
4.42	K	K	1722	1	3.94	R	R	4349	1
4.41	K	K	1722	1	3.93	R	R	11198	1
4.40	K	K	1739	1	3.92	R	R	6450	1
4.39	K	K	1757	1	3.91	R	R	7051	1
4.38	K	K	1828	1	3.90	R	R	5250	1
4.37	K	K	3623	1	3.89	R	R	6254	1
4.36	K	K	12037	1	3.88	F	F	15001	1
4.35	K	K	4341	1	3.87	R	R	3932	1
4.34	K	K	10350	1	3.86	R	R	2425	1
4.33	F	F	15001	1	3.85	R	R	3067	1
4.32	K	K	13554	1	3.84	R	R	6772	1
4.31	K	K	6459	1	3.83	R	R	9266	1
4.30	K	K	11141	1	3.82	R	R	4272	1
4.29	K	K	9971	1	3.81	R	R	1906	1
4.28	K	K	2539	1	3.80	R	R	1712	1
4.27	K	K	2387	1	3.79	R	R	1672	1
4.26	K	K	2427	1	3.78	R	R	1705	1
4.25	K	K	4794	1	3.77	R	R	3648	1
4.24	F	F	15001	1	3.76	R	R	4577	1
4.23	-1.70	1075.97	11913	1	3.75	R	R	7173	1
4.22	-1.18	1225.31	14750	1	3.74	R	R	13682	1
4.21	K	K	12960	1	3.73	R	R	8538	1
4.20	K	K	2287	1	3.72	R	R	4845	1
4.19	K	K	14750	1	3.71	F	F	15001	1
4.18	K	K	5256	1	3.70	R	R	7486	1
4.17	K	K	2599	1	3.69	R	R	3092	1
4.16	-3.27	942.73	9396	1	3.68	R	R	3197	1
4.15	K	K	4129	1	3.67	R	R	4795	1
4.14	-3.64	715.55	8582	1	3.66	R	R	7556	1
4.13	K	K	1697	1	3.65	R	R	6954	1
4.12	K	K	1682	1	3.64	R	R	6310	1
4.11	K	K	1576	1	3.63	R	R	12577	1
4.10	K	K	1586	1	3.62	F	F	15001	1
4.09	K	K	1549	1	3.61	R	R	1972	1
4.08	K	K	1551	1	3.60	R	R	1783	1
4.07	K	K	1579	1	3.59	R	R	1782	1
4.06	K	K	13399	1	3.58	R	R	4957	1
4.05	K	K	10940	1	3.57	R	R	3243	1
4.04	K	K	3774	1	3.56	R	R	7285	1
4.03	K	K	7147	1	3.55	R	R	4845	1

HERMANUS, SOUTH AFRICA (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 34.42 S

GEOGRAPHIC LONGITUDE = 19.22 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
3.54	K	R	3054	1	3.10	R	P	5069	1
3.53	K	R	2460	1	3.05	R	R	8182	1
3.52	K	K	7280	1	3.00	R	R	5718	1
3.51	F	F	15001	1	2.95	R	R	4711	1
3.50	K	K	14517	1	2.90	R	R	10517	1
3.49	K	K	2807	1	2.85	R	R	9334	1
3.48	K	K	4220	1	2.80	R	R	7748	1
3.38	F	F	15001	1	2.75	R	R	5836	1
3.36	K	K	3107	1	2.70	R	R	10559	1
3.28	F	F	15001	1	2.65	F	F	15001	1
3.26	K	K	14852	1	2.60	R	R	1733	1
3.18	K	R	8895	1	2.55	R	R	12618	1
					2.50	R	R	1917	1

## PUANLAYO, PERU

GEOGRAPHIC LATITUDE = 12.03 S

GEOGRAPHIC LONGITUDE = 283.12 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-1.35	15.10	118	10	13.58	-5.39	191.09	1495	1
19.00	.50	21.90	121	10	13.57	-6.16	195.50	1518	1
18.00	2.82	30.10	125	10	13.56	-6.87	200.47	1544	1
17.00	5.74	40.59	130	10	13.55	-7.49	206.18	1574	1
16.00	9.42	54.70	137	10	13.54	-7.93	212.84	1609	1
15.00	13.64	76.73	150	10	13.53	-8.09	220.81	1652	1
14.00	12.67	123.77	1154	1	13.52	-7.78	230.72	1705	1
13.99	12.51	124.59	1157	1	13.51	-6.73	243.72	1776	1
13.98	12.35	125.44	1161	1	13.50	-4.60	262.73	1883	1
13.97	12.19	126.29	1165	1	13.49	-2.65	299.35	2097	1
13.96	12.01	127.10	1169	1	13.48	R	R	2078	1
13.95	11.83	128.05	1173	1	13.47	R	R	1768	1
13.94	11.63	128.90	1177	1	13.46	R	R	1632	1
13.93	11.43	129.80	1181	1	13.45	R	R	1550	1
13.92	11.22	130.82	1186	1	13.44	R	R	1493	1
13.91	11.00	131.79	1191	1	13.43	R	R	1449	1
13.90	10.77	132.77	1195	1	13.42	R	R	1413	1
13.89	10.53	133.77	1200	1	13.41	R	R	1383	1
13.88	10.28	134.80	1205	1	13.40	R	R	1356	1
13.87	10.01	135.85	1210	1	13.39	R	R	1331	1
13.86	9.74	136.92	1215	1	13.38	R	R	1309	1
13.85	9.45	138.02	1220	1	13.37	R	R	1288	1
13.84	9.15	139.15	1226	1	13.36	R	R	1268	1
13.83	8.84	140.31	1232	1	13.35	R	R	1249	1
13.82	8.53	141.50	1238	1	13.34	R	R	1231	1
13.81	8.10	142.71	1243	1	13.33	R	R	1213	1
13.80	7.80	143.97	1250	1	13.32	R	R	1197	1
13.79	7.43	145.26	1256	1	13.31	R	R	1181	1
13.78	7.03	146.60	1263	1	13.30	R	R	1167	1
13.77	6.62	147.97	1269	1	13.29	R	R	1153	1
13.76	6.19	149.39	1277	1	13.28	R	R	1140	1
13.75	5.75	150.85	1284	1	13.23	R	R	1084	1
13.74	5.28	152.36	1292	1	13.18	R	R	1039	1
13.73	4.79	153.90	1300	1	13.13	R	R	1003	1
13.72	4.27	155.54	1308	1	13.08	R	R	973	1
13.71	3.74	157.30	1317	1	13.03	R	R	947	1
13.70	3.19	159.08	1326	1	12.98	R	R	923	1
13.69	2.64	160.90	1336	1	12.93	R	R	902	1
13.68	1.98	162.90	1346	1	12.88	R	R	882	1
13.67	1.35	164.95	1357	1	12.83	R	R	863	1
13.66	.69	167.13	1368	1	12.78	R	R	846	1
13.65	0.00	169.42	1380	1	12.73	R	R	829	1
13.64	-0.71	171.87	1393	1	12.68	R	R	813	1
13.63	-1.45	174.47	1407	1	12.63	R	R	798	1
13.62	-2.21	177.27	1422	1	12.58	R	R	783	1
13.61	-2.99	180.28	1438	1	12.53	R	R	769	1
13.60	-3.79	183.50	1455	1	12.48	R	R	755	1
13.59	-4.59	187.14	1474	1	12.43	R	R	742	1



HUANLAYO, PERU (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 12.03 S

GEOGRAPHIC LONGITUDE = 263.12 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
12.36	R	R	729	1	12.33	R	R	717	1
					12.28	R	R	705	1

## INUVIK, CANADA

GEOGRAPHIC LATITUDE = 68.35 N

GEOGRAPHIC LONGITUDE = 226.27 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	48.24	-121.46	103	10	0.60	-15.84	-117.39	1287	1
19.00	47.49	-122.05	103	10	0.50	-22.23	-112.09	1486	1
18.00	46.73	-122.72	103	10	0.40	-30.26	-101.12	1804	1
17.00	45.98	-123.46	103	10	0.30	-35.23	-74.10	2381	1
16.00	45.25	-124.28	103	10	0.29	-34.71	-69.38	2467	1
15.00	44.56	-125.15	103	10	0.28	-33.76	-64.20	2560	1
14.00	43.93	-126.05	103	10	0.27	-32.00	-58.12	2665	1
13.00	43.41	-126.92	146	9	0.26	-29.31	-51.39	2782	1
12.00	43.00	-127.66	146	9	0.25	-25.51	-44.90	2911	1
11.00	42.68	-128.13	191	8	0.24	-19.76	-36.67	3062	1
10.00	42.37	-128.13	232	7	0.23	-11.82	-26.14	3238	1
9.00	41.78	-127.49	233	7	0.22	.50	-16.19	3465	1
8.00	40.41	-126.37	275	6	0.21	17.64	5.57	3791	1
7.00	37.73	-125.61	331	5	0.20	-4.40	98.86	4672	1
6.00	34.21	-126.66	332	5	0.19	-10.07	386.89	14563	1
5.00	32.25	-128.65	459	4	0.18	8.76	190.04	9167	1
4.00	29.50	-127.00	530	3	0.17	F	F	32000	1
3.00	24.75	-128.25	543	3	0.16	F	F	32000	1
2.00	15.84	-127.28	632	2	0.15	F	F	32000	1
1.90	14.89	-127.80	639	2	0.14	F	F	32000	1
1.80	14.51	-127.56	646	2	0.13	F	F	15001	1
1.70	12.99	-126.78	655	2	0.12	F	F	15001	1
1.60	10.98	-127.06	666	2	0.11	F	F	15001	1
1.50	10.37	-127.00	800	1	0.10	F	F	15001	1
1.40	8.14	-126.21	818	1	0.09	F	F	15001	1
1.30	6.74	-126.48	839	1	0.08	F	F	15001	1
1.20	4.21	-125.57	865	1	0.07	F	F	15001	1
1.10	2.62	-125.09	896	1	0.06	F	F	15001	1
1.00	0.00	-124.67	937	1	0.05	F	F	15001	1
0.90	-3.01	-123.68	991	1	0.04	F	F	15001	1
0.80	-6.47	-122.95	1060	1	0.03	F	F	15001	1
0.70	-10.45	-120.45	1154	1	0.02	F	F	15001	1
					0.01	F	F	15001	1

## INVERCARGILL, NEW ZEALAND

GEOGRAPHIC LATITUDE = 46.50 S

GEOGRAPHIC LONGITUDE = 168.37 E

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS
21.00	-23.04	215.90	106	10	2.06	10.03	421.89	1231	1
19.00	-21.20	216.40	106	10	2.05	21.89	439.15	1295	1
18.00	-19.27	216.84	107	10	2.04	27.65	482.34	1425	1
17.00	-17.24	217.19	107	10	2.03	-5.89	648.90	2657	1
16.00	-15.17	217.49	106	10	2.02	-14.59	643.41	2503	1
15.00	-13.11	217.67	106	10	2.01	17.39	459.28	1789	1
14.00	-11.11	217.77	108	10	2.00	-16.66	599.13	3026	1
13.00	-9.35	217.85	154	9	1.99	-1.42	485.40	2278	1
12.00	-7.87	217.90	155	9	1.98	-19.64	706.91	4963	1
11.00	-6.89	218.11	202	8	1.97	-8.84	729.85	5263	1
10.00	-6.47	218.80	246	7	1.96	R	R	1470	1
9.00	-6.37	220.52	246	7	1.95	R	R	1499	1
8.00	-5.71	221.10	291	6	1.94	-6.28	753.16	5309	1
7.00	-2.61	230.15	352	5	1.93	-14.20	705.77	4483	1
6.00	4.06	257.83	360	5	1.92	F	F	15001	1
5.00	8.99	244.63	506	4	1.91	-15.27	1033.40	6693	1
4.00	8.85	255.85	595	3	1.90	R	R	5778	1
3.00	5.88	264.12	642	3	1.89	-11.71	620.05	2533	1
2.90	4.59	267.20	712	2	1.88	19.18	807.38	4724	1
2.80	3.14	291.81	719	2	1.87	F	F	15001	1
2.70	1.21	298.27	730	2	1.86	F	F	15001	1
2.60	-2.21	306.80	747	2	1.85	F	F	15001	1
2.50	-7.72	317.17	770	2	1.84	8.47	506.96	2004	1
2.40	-14.31	328.64	796	2	1.83	-16.72	687.00	3158	1
2.30	-19.24	341.07	826	2	1.82	5.11	569.04	3391	1
2.29	-19.50	342.40	984	1	1.81	-14.72	670.55	3909	1
2.28	-19.85	343.76	986	1	1.80	F	F	15001	1
2.27	-20.11	345.10	991	1	1.79	-3.82	944.29	5470	1
2.26	-20.34	346.65	995	1	1.78	F	F	15001	1
2.25	-20.52	348.10	999	1	1.77	-2.67	610.62	3597	1
2.24	-20.69	349.75	1005	1	1.76	F	F	15001	1
2.23	-20.80	351.44	1006	1	1.75	R	R	9172	1
2.22	-20.89	353.20	1012	1	1.74	R	R	1760	1
2.21	-20.92	355.09	1017	1	1.73	F	F	15001	1
2.20	-20.91	357.11	1022	1	1.72	R	R	10734	1
2.19	-20.84	359.20	1026	1	1.71	F	F	15001	1
2.18	-20.71	361.61	1035	1	1.70	R	R	14292	1
2.17	-20.48	364.15	1040	1	1.69	R	R	2359	1
2.16	-20.14	366.95	1047	1	1.68	F	F	15001	1
2.15	-19.65	369.97	1055	1	1.67	F	F	15001	1
2.14	-18.97	373.31	1064	1	1.66	F	F	15001	1
2.13	-18.04	377.00	1074	1	1.65	F	F	15001	1
2.12	-16.77	381.11	1086	1	1.64	F	F	15001	1
2.11	-15.05	385.67	1099	1	1.63	F	F	15001	1
2.10	-12.67	390.77	936	2	1.62	R	R	9684	1
2.09	-9.42	396.57	1134	1	1.61	R	R	1729	1
2.08	-4.94	403.20	1150	1	1.60	F	F	15001	1
2.07	1.20	411.31	1184	1	1.59	F	F	15001	1

INVERCARGILL, NEW ZEALAND (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 46.50 S GEOGRAPHIC LONGITUDE = 168.37 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
1.50	N	N	9399	1	1.06	R	R	6433	1
1.57	F	F	15001	1	1.01	F	F	15001	1
1.50	F	F	15001	1	1.00	R	R	2666	1
1.51	F	F	15001	1	0.96	F	F	15001	1
1.40	N	N	12021	1	0.91	F	F	15001	1
1.41	N	N	4120	1	0.86	R	R	8661	1
1.30	F	F	15001	1	0.81	R	R	3822	1
1.31	F	F	15001	1	0.76	R	R	1652	1
1.20	F	F	15001	1	0.71	R	R	1794	1
1.21	N	N	2202	1	0.66	R	R	1855	1
1.10	N	N	2359	1	0.61	R	R	1885	1
1.11	F	F	15001	1	0.56	R	R	1958	1
					0.51	R	R	2157	1

## IRKUTSK, U.S.S.R.

GEOGRAPHIC LATITUDE = 52.27 N

GEOGRAPHIC LONGITUDE = 104.30 E

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
20.00	13.91	152.94	100	10	4.04	-2.26	377.40	1810	1
19.00	11.54	153.52	100	10	4.03	1.66	401.90	1888	1
18.00	9.02	154.34	109	10	4.02	-0.30	739.51	5530	1
17.00	6.35	155.11	109	10	4.01	13.22	445.75	2677	1
16.00	3.57	155.95	110	10	4.00	-17.78	669.12	3766	1
15.00	.72	156.90	111	10	3.99	2.49	383.06	2067	1
14.00	-2.12	158.01	112	10	3.98	-1.62	768.04	6002	1
13.00	-4.85	159.30	160	9	3.97	6.82	846.40	7438	1
12.00	-7.31	161.01	161	9	3.96	8.36	525.15	3583	1
11.00	-9.30	163.11	211	8	3.95	14.21	394.67	2338	1
10.00	-10.64	165.87	259	7	3.94	19.90	428.09	2565	1
9.00	-11.60	169.71	261	7	3.93	17.79	402.36	2736	1
8.00	-12.64	175.60	311	6	3.92	R	R	1372	1
7.00	-13.32	186.22	380	5	3.91	R	R	1331	1
6.00	-14.50	207.22	400	5	3.90	R	R	1300	1
5.00	-15.42	248.07	617	4	3.89	R	R	1281	1
4.00	-16.50	253.78	620	4	3.88	R	R	1272	1
4.80	-.24	260.12	640	4	3.87	R	R	1268	1
4.70	2.91	267.37	654	4	3.86	R	R	1268	1
4.60	4.90	275.87	669	4	3.85	R	R	1272	1
4.50	5.92	286.20	792	3	3.84	R	R	1278	1
4.40	4.88	299.30	819	3	3.83	R	R	1226	1
4.30	-1.08	317.65	854	3	3.82	R	R	1297	1
4.24	-0.91	319.90	1135	1	3.81	R	R	1323	1
4.20	-1.80	322.41	1141	1	3.80	R	R	1430	1
4.21	-2.84	325.01	1144	1	3.79	R	R	4343	1
4.20	-4.01	327.74	1150	1	3.78	-14.96	611.97	5650	1
4.25	-5.25	330.77	1167	1	3.77	-1.30	723.73	5846	1
4.24	-6.50	334.00	1177	1	3.76	-25.77	1029.21	10084	1
4.20	-8.00	337.54	1184	1	3.75	R	R	3869	1
4.22	-9.54	341.44	1201	1	3.74	-2.29	545.73	3267	1
4.21	-11.17	345.81	1215	1	3.73	.82	664.59	4697	1
4.20	-12.85	350.77	1231	1	3.72	12.48	440.01	2367	1
4.19	-14.50	356.90	1244	1	3.71	-16.47	714.65	4774	1
4.18	-15.90	363.25	1270	1	3.70	7.93	519.94	3751	1
4.17	-17.00	371.41	1290	1	3.69	12.28	574.14	5165	1
4.16	-18.55	381.48	1327	1	3.68	-15.31	641.08	3570	1
4.15	-19.50	394.20	1367	1	3.67	7.26	490.95	2850	1
4.14	-7.05	410.88	1420	1	3.66	-8.43	644.15	4710	1
4.13	15.17	437.25	1531	1	3.65	10.67	452.02	2238	1
4.12	12.55	557.70	2094	1	3.64	.18	939.35	6958	1
4.11	-2.35	471.47	2482	1	3.63	1.10	573.11	4554	1
4.10	R	R	1620	1	3.62	R	R	2151	1
4.09	R	R	1555	1	3.61	1.37	617.76	3660	1
4.08	14.94	805.68	7254	1	3.60	R	R	2631	1
4.07	R	R	2620	1	3.59	R	R	4276	1
4.06	5.38	1140.31	8632	1	3.58	-1.40	641.02	3779	1
4.05	14.55	340.70	1881	1	3.57	R	R	3753	1

ARADISA, U.S.S.R. (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 52.27 N

GEOGRAPHIC LONGITUDE = 104.30 E

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
3.50	K	K	3150	1	3.20	R	K	8141	1
3.50	K	K	1615	1	3.19	R	K	13443	1
3.50	K	K	1715	1	3.18	R	K	9883	1
3.50	K	K	1710	1	3.17	K	K	9757	1
3.5	K	K	1767	1	3.16	R	R	2270	1
3.5	K	K	4624	1	3.15	R	K	13484	1
3.50	-1.75	598.70	4704	1	3.14	R	K	4606	1
3.49	1.37	877.89	7021	1	3.13	K	K	3633	1
3.40	14.82	819.60	6365	1	3.12	R	R	4950	1
3.47	-3.12	1444.24	13425	1	3.11	R	K	7069	1
3.40	-2.60	596.15	4080	1	3.10	F	F	15001	1
3.40	K	K	2475	1	3.09	R	R	14755	1
3.44	K	K	2587	1	3.08	F	F	15001	1
3.40	K	K	2562	1	3.07	R	R	11480	1
3.42	K	K	2562	1	3.06	R	R	10523	1
3.41	K	K	2570	1	3.05	F	F	15001	1
3.40	K	K	7215	1	3.00	R	R	5538	1
3.39	K	K	4400	1	2.95	R	R	8379	1
3.30	K	K	14222	1	2.90	F	F	15001	1
3.37	F	F	15001	1	2.85	R	R	5100	1
3.30	K	K	9425	1	2.80	F	F	15001	1
3.30	K	K	7535	1	2.75	R	R	1736	1
3.34	K	K	6985	1	2.70	R	R	7066	1
3.30	K	K	11275	1	2.65	R	R	6532	1
3.32	K	K	5304	1	2.60	F	F	15001	1
3.31	F	F	15001	1	2.55	R	R	3538	1
3.30	K	K	1782	1	2.50	R	R	2705	1
3.29	K	K	1646	1	2.45	R	R	2855	1
3.20	K	K	1620	1	2.40	F	F	15001	1
3.27	K	K	1615	1	2.35	R	K	6788	1
3.20	K	K	1637	1	2.30	R	R	3016	1
3.25	K	K	1695	1	2.25	F	F	15001	1
3.24	K	K	11475	1	2.20	R	K	9708	1
3.20	K	K	10367	1	2.15	R	R	2005	1
3.22	K	K	11005	1	2.10	R	R	5554	1
3.21	K	K	5326	1	2.05	R	R	12709	1
					1.15	R	R	1088	1

## JUNGFRAUJUCH, SWITZERLAND

GEOGRAPHIC LATITUDE = 46.55 N

GEOGRAPHIC LONGITUDE = 7.98 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	12.82	03.20	109	10	4.76	13.81	398.76	3506	1
19.00	10.32	04.41	109	10	4.75	11.00	463.05	3622	1
18.00	7.62	05.71	110	10	4.74	10.33	562.19	5218	1
17.00	4.72	07.13	111	10	4.73	R	R	2623	1
16.00	1.64	08.70	112	10	4.72	-8.84	363.70	3032	1
15.00	-1.55	10.44	113	10	4.71	-7.28	373.69	3294	1
14.00	-4.78	12.59	115	10	4.70	R	R	1480	1
13.00	-7.88	15.09	164	9	4.69	R	R	1373	1
12.00	-10.57	17.12	167	9	4.68	R	R	1337	1
11.00	-12.48	01.70	220	8	4.67	R	R	1323	1
10.00	-13.17	06.00	271	7	4.66	R	R	1315	1
9.00	-12.32	11.13	275	7	4.65	R	R	1311	1
8.00	-10.10	17.61	329	6	4.64	R	R	1311	1
7.00	-7.39	108.00	401	5	4.63	R	R	1315	1
6.00	-3.67	130.41	422	5	4.62	R	R	1322	1
5.90	-2.84	134.02	580	4	4.61	R	R	1333	1
5.80	-1.78	138.03	532	4	4.60	R	R	1350	1
5.70	-1.54	138.80	593	4	4.59	R	R	1460	1
5.70	-1.43	142.52	599	4	4.58	7.18	422.27	4517	1
5.60	-1.12	143.49	601	4	4.57	.90	567.21	5008	1
5.60	1.28	147.60	606	4	4.56	-12.71	343.66	2921	1
5.50	1.67	148.70	610	4	4.55	R	R	4758	1
5.50	3.45	153.42	610	4	4.54	5.97	466.53	3812	1
5.40	3.95	154.69	620	4	4.53	R	R	4105	1
5.40	6.10	160.24	631	4	4.52	R	R	4026	1
5.30	6.77	161.77	634	4	4.51	-9.73	346.67	2390	1
5.30	9.41	168.49	647	4	4.50	R	R	2469	1
5.20	10.12	170.30	650	4	4.49	20.08	451.81	4601	1
5.20	13.03	178.94	660	4	4.48	3.52	464.09	3967	1
5.10	13.74	181.42	671	4	4.47	19.94	457.91	3348	1
5.10	16.14	193.10	693	4	4.46	9.51	494.01	4618	1
5.00	16.51	196.69	700	4	4.45	R	R	3358	1
5.00	15.60	214.14	734	4	4.44	R	R	4390	1
4.90	14.32	219.55	744	4	4.43	-4.87	314.23	2140	1
4.90	-1.80	248.74	809	4	4.42	-6.92	304.04	2112	1
4.89	-5.28	254.09	1241	1	4.41	-15.04	336.45	2221	1
4.80	-10.00	260.43	1266	1	4.40	12.01	494.53	3789	1
4.80	-15.85	268.44	1290	1	4.39	R	R	3650	1
4.80	-21.80	279.54	1334	1	4.38	R	R	2212	1
4.80	-27.34	297.05	1389	1	4.37	-1.24	530.45	5094	1
4.84	-24.61	328.11	1480	1	4.36	R	R	3131	1
4.83	11.43	459.79	1932	1	4.35	-6.61	1075.93	11576	1
4.82	R	R	1855	1	4.34	5.29	385.75	2782	1
4.81	-7.39	405.80	2962	1	4.33	13.80	462.08	4280	1
4.80	-11.24	378.50	2450	1	4.32	R	R	4836	1
4.79	11.44	508.90	4346	1	4.31	-7.85	707.15	6749	1
4.70	-11.65	303.30	1948	1	4.30	R	R	3054	1
4.70	2.58	458.34	2479	1	4.29	R	R	12893	1

JUNGFRAUJUCH, SWITZERLAND

(CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 46.55 N

GEOGRAPHIC LONGITUDE = 7.98 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.20	12.45	404.15	4109	1	3.86	R	R	3066	1
4.21	K	K	1860	1	3.85	R	R	12485	1
4.20	K	K	1804	1	3.84	R	R	6559	1
4.25	K	K	1805	1	3.83	R	R	4234	1
4.24	K	K	1780	1	3.82	R	R	2300	1
4.25	K	K	1790	1	3.81	R	R	2356	1
4.22	K	K	1614	1	3.80	R	R	7629	1
4.21	K	K	1655	1	3.79	R	R	8941	1
4.20	K	K	7271	1	3.78	R	R	5706	1
4.19	K	K	4500	1	3.77	R	R	3345	1
4.10	F	F	15001	1	3.76	F	F	15001	1
4.11	K	K	8010	1	3.75	F	F	15001	1
4.10	4.92	515.55	5619	1	3.74	R	R	2476	1
4.15	-20.85	645.70	7260	1	3.73	R	R	13120	1
4.14	K	K	8097	1	3.72	R	R	12.49	1
4.15	K	K	11247	1	3.71	R	R	3189	1
4.12	1.07	546.57	5671	1	3.70	R	R	6445	1
4.11	6.30	847.65	8394	1	3.69	R	R	12213	1
4.10	K	K	3364	1	3.68	R	R	11686	1
4.09	-14.74	655.94	7475	1	3.67	R	R	3290	1
4.00	-5.51	546.95	5212	1	3.62	R	R	1644	1
4.01	K	K	6982	1	3.57	R	R	1594	1
4.00	K	K	4675	1	3.52	F	F	15001	1
4.05	K	K	2602	1	3.47	R	R	2359	1
4.04	K	K	2450	1	3.42	R	R	2218	1
4.05	K	K	2437	1	3.37	R	R	5039	1
4.02	K	K	2424	1	3.32	R	R	3156	1
4.01	K	K	2422	1	3.27	R	R	2577	1
4.00	K	K	2417	1	3.22	R	R	1699	1
3.99	K	K	2415	1	3.17	R	R	4412	1
3.90	K	K	2410	1	3.12	R	R	8691	1
3.81	K	K	2412	1	3.07	R	R	6290	1
3.90	K	K	2405	1	3.02	R	R	3932	1
3.95	K	K	2424	1	2.97	R	R	10068	1
3.94	K	K	2440	1	2.92	R	R	7756	1
3.95	K	K	5705	1	2.87	R	R	6302	1
3.92	K	K	4030	1	2.82	R	R	1535	1
3.91	K	K	5137	1	2.77	R	R	1001	1
3.90	K	K	13425	1	2.72	R	R	988	1
3.89	K	K	8325	1	2.67	R	R	985	1
3.80	K	K	10710	1	2.62	R	R	994	1
3.81	K	K	5082	1	1.78	R	R	793	2



## KAMPALA, UGANDA

GEOGRAPHIC LATITUDE = 0.33 N

GEOGRAPHIC LONGITUDE = 32.56 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	11.07	135.72	125	10	14.89	R	R	1298	1
19.00	10.45	145.24	127	10	14.88	R	R	1273	1
18.00	9.02	157.63	135	10	14.87	R	R	1251	1
17.00	5.98	174.74	142	10	14.86	R	R	1230	1
16.00	-1.54	203.24	160	10	14.85	R	R	1212	1
15.90	-1.54	207.40	165	10	14.84	R	R	1195	1
15.80	-2.68	212.22	167	10	14.83	R	R	1179	1
15.70	-3.87	217.50	171	10	14.82	R	R	1164	1
15.60	-5.14	223.64	175	10	14.81	R	R	1150	1
15.50	-6.44	230.91	180	10	14.80	R	R	1137	1
15.40	-7.90	239.70	187	10	14.79	R	R	1124	1
15.30	-9.20	250.92	197	10	14.78	R	R	1112	1
15.20	-10.37	266.33	204	10	14.77	R	R	1101	1
15.10	-10.41	290.90	231	10	14.72	R	R	1052	1
15.04	-10.27	294.43	1470	1	14.67	R	R	1012	1
15.00	-10.10	298.22	1497	1	14.62	R	R	979	1
15.07	-9.87	302.34	1520	1	14.57	R	R	949	1
15.00	-9.57	307.01	1540	1	14.52	R	R	923	1
15.05	-9.20	312.20	1575	1	14.47	R	R	900	1
15.04	-8.73	318.13	1604	1	14.42	R	R	879	1
15.00	-8.13	325.03	1648	1	14.37	R	R	859	1
15.02	-7.35	333.31	1697	1	14.32	R	R	841	1
15.01	-6.24	343.67	1757	1	14.27	R	R	825	1
15.00	-4.74	357.52	1834	1	14.22	R	R	810	1
14.94	-1.43	378.50	1965	1	14.17	R	R	794	1
14.90	6.80	424.44	2241	1	14.12	R	R	781	1
14.97	N	N	1634	1	14.07	R	R	768	1
14.90	N	N	1680	1	14.02	R	R	754	1
14.95	N	N	1564	1	14.00	R	R	115	10
14.94	N	N	1496	1	13.97	R	R	744	1
14.95	N	N	1440	1	13.92	R	R	732	1
14.92	N	N	1396	1	13.87	R	R	722	1
14.91	N	N	1386	1	13.82	R	R	712	1
14.90	N	N	1327	1	13.77	R	R	702	1
					13.72	R	R	693	1

## KERGUELEN ISLANDS

GEOGRAPHIC LATITUDE = 49.35 S

GEOGRAPHIC LONGITUDE = 70.22 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
15.00	-7.11	04.90	100	10	1.19	6.33	1127.24	11035	1
14.00	-5.82	04.31	107	10	1.18	16.82	1177.45	9665	1
13.00	-4.75	03.60	151	9	1.17	R	R	13763	1
12.00	-3.95	02.90	152	9	1.16	F	F	15001	1
11.00	-3.52	02.55	196	8	1.15	R	R	2017	1
10.00	-3.50	02.60	241	7	1.14	F	F	15001	1
9.00	-3.65	03.50	242	7	1.13	R	R	13921	1
8.00	-3.07	05.90	286	6	1.12	F	F	15001	1
7.00	-0.05	09.97	344	5	1.11	F	F	15001	1
6.00	7.40	04.35	349	5	1.10	R	R	7172	1
5.00	16.50	06.75	491	4	1.09	F	F	15001	1
4.00	17.74	09.75	572	3	1.08	F	F	15001	1
3.00	29.42	117.40	600	3	1.07	F	F	15001	1
2.90	29.65	118.74	665	2	1.06	F	F	15001	1
2.80	29.35	119.85	669	2	1.05	R	R	2081	1
2.70	28.85	121.10	672	2	1.04	F	F	15001	1
2.60	28.57	123.31	676	2	1.03	F	F	15001	1
2.50	28.92	126.95	681	2	1.02	F	F	15001	1
2.40	29.90	132.20	684	2	1.01	F	F	15001	1
2.30	30.70	138.95	694	2	1.00	R	R	10884	1
2.20	30.14	145.31	711	2	0.99	F	F	15001	1
2.10	28.32	149.50	725	2	0.98	R	R	5543	1
2.00	26.25	152.37	735	2	0.95	R	R	12746	1
1.90	24.31	157.77	745	2	0.90	F	F	15001	1
1.80	20.17	166.71	767	2	0.85	R	R	3470	1
1.70	10.82	180.55	799	2	0.80	R	R	12649	1
1.60	2.66	187.94	826	2	0.75	F	F	15001	1
1.50	-6.95	202.27	1030	1	0.70	F	F	15001	1
1.40	-20.81	206.15	1208	1	0.65	F	F	15001	1
1.30	-15.36	344.84	1996	1	0.60	R	R	7411	1
1.29	-15.74	359.20	2207	1	0.55	F	F	15001	1
1.28	-10.64	540.41	4590	1	0.50	R	R	4909	1
1.27	10.84	477.80	3502	1	0.45	F	F	15001	1
1.26	N	N	1720	1	0.40	R	R	3071	1
1.25	22.15	445.97	3674	1	0.35	R	R	3108	1
1.24	3.05	426.84	2979	1	0.30	R	R	3426	1
1.23	15.94	446.10	2770	1	0.25	R	R	4067	1
1.22	-14.01	619.64	4230	1	0.20	R	R	5045	1
1.21	-11.92	904.45	7492	1	0.15	R	R	6656	1
1.20	15.94	1104.32	9694	1	0.10	R	R	9913	1

## KHARTOUM, SUDAN

GEOGRAPHIC LATITUDE = 15.55 N

GEOGRAPHIC LONGITUDE = 32.58 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-1.72	142.97	127	10	15.50	R	R	1421	1
19.00	-2.51	153.76	132	10	15.49	R	R	1380	1
18.00	-2.51	168.48	140	10	15.48	R	R	1345	1
17.00	-3.58	191.02	153	10	15.47	R	R	1316	1
16.90	-3.21	194.10	156	10	15.46	R	R	1290	1
16.80	.14	197.36	158	10	15.45	R	R	1266	1
16.70	.64	200.93	160	10	15.44	R	R	1246	1
16.60	1.12	204.81	163	10	15.43	R	R	1226	1
16.50	1.64	209.06	166	10	15.42	R	R	1209	1
16.40	2.16	213.79	169	10	15.41	R	R	1193	1
16.30	2.68	219.10	173	10	15.40	R	R	1178	1
16.20	3.13	225.1	176	10	15.39	R	R	1164	1
16.10	3.44	232.21	183	10	15.38	R	R	1151	1
16.00	3.42	240.65	190	10	15.37	R	R	1139	1
15.90	2.72	251.15	199	10	15.36	R	R	1127	1
15.80	.54	265.00	211	10	15.35	R	R	1115	1
15.70	-4.82	265.56	224	10	15.30	R	R	1066	1
15.69	-5.64	268.34	1466	1	15.25	R	R	1026	1
15.68	-6.64	291.31	1483	1	15.20	R	R	991	1
15.67	-7.67	294.53	1502	1	15.15	R	R	960	1
15.66	-8.80	298.03	1522	1	15.10	R	R	933	1
15.65	-10.03	301.89	1545	1	15.05	R	R	908	1
15.64	-11.36	306.19	1570	1	15.00	R	R	886	1
15.63	-12.76	311.05	1598	1	14.95	R	R	866	1
15.62	-14.26	316.62	1630	1	14.90	R	R	847	1
15.61	-15.73	323.17	1667	1	14.85	R	R	829	1
15.60	-17.06	331.05	1712	1	14.80	R	R	813	1
15.59	-17.92	340.88	1767	1	14.75	R	R	797	1
15.58	-17.54	353.64	1834	1	14.70	R	R	783	1
15.57	-13.91	371.24	1944	1	14.65	R	R	770	1
15.56	-3.34	399.10	2188	1	14.60	R	R	757	1
15.55	N	N	2434	1	14.55	R	R	745	1
15.54	N	N	1766	1	14.50	R	R	734	1
15.53	N	N	1683	1	14.45	R	R	723	1
15.52	N	N	1636	1	14.40	R	R	713	1
15.51	N	N	1472	1	14.35	R	R	702	1
					14.30	R	R	693	1

## KIEL, GERMANY

GEOGRAPHIC LATITUDE = 54.33 N

GEOGRAPHIC LONGITUDE = 10.13 E

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS
20.00	24.87	57.89	106	10	2.42	R	R	3830	1
19.00	22.87	58.30	107	10	2.41	11.31	493.38	4221	1
18.00	20.72	58.70	107	10	2.40	R	R	1502	1
17.00	18.45	59.14	106	10	2.39	R	R	1402	1
16.00	16.07	59.45	106	10	2.38	R	R	1396	1
15.00	13.61	59.75	104	10	2.37	R	R	1471	1
14.00	11.12	59.90	104	10	2.36	3.21	767.81	7264	1
13.00	8.71	60.14	156	9	2.35	-18.29	1002.70	9584	1
12.00	6.51	60.44	157	9	2.34	.97	1298.26	13647	1
11.00	4.71	60.70	205	8	2.33	-7.80	649.29	6136	1
10.00	3.51	61.41	250	7	2.32	F	F	15001	1
9.00	3.00	62.71	251	7	2.31	-4.10	874.62	8927	1
8.00	2.85	65.45	296	6	2.30	-3.67	606.66	3885	1
7.00	1.57	70.80	354	5	2.29	15.29	826.23	7221	1
6.00	-3.48	60.14	360	5	2.28	R	R	4799	1
5.00	-11.14	94.04	524	4	2.27	23.11	1208.06	11600	1
4.00	-9.20	109.21	624	3	2.26	-13.16	654.43	4581	1
3.90	-8.64	111.15	632	3	2.25	-5.13	615.25	4275	1
3.80	-8.15	113.40	634	3	2.24	13.45	840.53	9206	1
3.70	-7.67	116.31	637	3	2.23	R	R	3869	1
3.60	-7.22	119.85	642	3	2.22	R	R	1714	1
3.50	-6.60	124.17	647	3	2.21	-6.54	995.70	8581	1
3.40	-5.74	129.50	655	3	2.20	F	F	15001	1
3.30	-4.24	135.91	665	3	2.19	F	F	15001	1
3.20	-1.60	143.44	674	3	2.18	R	R	4884	1
3.10	2.45	152.20	696	3	2.17	R	R	7005	1
3.00	7.85	162.52	790	2	2.16	F	F	15001	1
2.90	13.44	174.74	818	2	2.15	-12.61	974.54	9126	1
2.80	17.30	189.80	855	2	2.14	R	R	14538	1
2.70	16.14	209.05	890	2	2.13	R	R	4639	1
2.60	4.32	236.74	964	2	2.12	F	F	15001	1
2.54	1.81	240.70	1162	1	2.11	R	R	5661	1
2.50	-1.12	245.20	1177	1	2.10	F	F	15001	1
2.51	-4.54	250.24	1195	1	2.09	F	F	15001	1
2.50	-8.72	256.35	1210	1	2.08	F	F	15001	1
2.55	-13.61	263.94	1245	1	2.07	F	F	15001	1
2.54	-19.25	274.40	1277	1	2.06	F	F	15001	1
2.53	-24.80	290.50	1327	1	2.05	F	F	15001	1
2.52	-25.25	319.64	1412	1	2.04	R	R	3725	1
2.51	21.10	411.90	1751	1	2.03	R	R	7241	1
2.50	10.70	549.84	4424	1	2.02	F	F	15001	1
2.49	-6.17	405.34	2487	1	2.01	F	F	15001	1
2.40	-5.04	539.74	3334	1	2.00	F	F	15001	1
2.47	-8.20	317.70	1600	1	1.99	R	R	13588	1
2.40	13.31	455.82	2555	1	1.98	R	R	1709	1
2.45	11.20	400.00	2667	1	1.97	R	R	1656	1
2.44	13.41	709.54	5495	1	1.96	R	R	1644	1
2.43	14.23	743.22	7075	1	1.95	R	R	1659	1

NIEL, GERMANI (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 54.33 N

GEOGRAPHIC LONGITUDE = 10.13 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
1.94	K	K	1722	1	1.58	F	F	15001	1
1.93	F	F	15001	1	1.53	F	F	15001	1
1.92	F	F	15001	1	1.48	F	F	15001	1
1.91	K	K	13751	1	1.43	F	F	15001	1
1.90	F	F	15001	1	1.38	R	R	4209	1
1.89	K	K	5168	1	1.33	F	F	15001	1
1.88	K	K	7771	1	1.28	R	R	9528	1
1.87	F	F	15001	1	1.23	F	F	15001	1
1.86	F	F	15001	1	1.18	R	R	3099	1
1.85	F	F	15001	1	1.13	R	R	1418	1
1.84	F	F	15001	1	1.08	F	F	15001	1
1.83	F	F	15001	1	1.03	R	R	1498	1
1.78	F	F	15001	1	0.98	R	R	1376	1
1.73	K	R	14019	1	0.93	R	R	1578	1
1.68	K	K	2017	1	0.88	R	R	1429	1
1.63	K	K	8518	1	0.83	R	R	1544	1

## KIRUNA, SWEDEN

GEOGRAPHIC LATITUDE = 67.83 N

GEOGRAPHIC LONGITUDE = 20.43 E

F	ASYMPTOTIC LAT LONG		NSTEP SS		P	ASYMPTOTIC LAT LONG		NSTEP SS	
20.00	47.47	60.78	103	10	0.63	15.10	214.11	1569	1
19.00	46.34	60.60	104	10	0.62	12.75	231.41	1641	1
18.00	45.16	60.31	104	10	0.61	5.70	250.50	1730	1
17.00	43.96	59.92	104	10	0.60	-11.13	271.38	1836	1
16.00	42.75	59.43	104	10	0.59	13.73	466.01	2663	1
15.00	41.54	58.84	104	10	0.58	17.81	506.03	4657	1
14.00	40.47	58.17	104	10	0.57	-1.92	524.88	5301	1
13.00	39.49	57.47	148	9	0.56	R	R	2794	1
12.00	38.72	56.81	149	9	0.55	-4.70	579.11	5965	1
11.00	38.21	56.36	194	8	0.54	-4.45	538.00	5294	1
10.00	37.47	56.41	236	7	0.53	-3.66	395.89	3084	1
9.00	37.78	57.41	236	7	0.52	F	F	32000	1
8.00	37.01	59.76	279	6	0.51	R	R	3352	1
7.00	34.42	63.11	336	5	0.50	F	F	32000	1
6.00	29.26	65.43	339	5	0.49	F	F	32000	1
5.00	24.51	66.82	470	4	0.48	F	F	32000	1
4.00	23.05	67.57	544	3	0.47	F	F	32000	1
3.00	14.42	71.42	561	3	0.45	R	R	3355	1
2.00	5.59	81.19	659	2	0.43	F	F	15001	1
1.90	3.08	83.39	668	2	0.44	F	F	15001	1
1.80	1.08	84.60	673	2	0.43	F	F	15001	1
1.70	.78	85.66	687	2	0.42	F	F	15001	1
1.60	-.60	88.67	700	2	0.41	R	R	3901	1
1.50	-3.60	91.78	846	1	0.40	F	F	15001	1
1.40	-4.06	93.80	865	1	0.39	F	F	15001	1
1.30	-6.69	98.91	893	1	0.38	F	F	15001	1
1.20	-7.59	102.50	924	1	0.37	F	F	15001	1
1.10	-9.95	109.92	967	1	0.36	F	F	15001	1
1.00	-10.90	117.63	1018	1	0.35	F	F	15001	1
0.90	-9.94	128.28	1088	1	0.34	R	R	4732	1
0.80	-6.38	144.92	1191	1	0.33	R	R	7389	1
0.70	4.50	169.98	1360	1	0.32	F	F	15001	1
0.69	5.64	173.46	1378	1	0.27	F	F	15001	1
0.68	7.47	178.77	1397	1	0.22	F	F	15001	1
0.67	10.25	185.38	1429	1	0.17	R	R	14943	1
0.66	12.57	191.62	1461	1	0.12	R	R	9211	1
0.65	13.79	196.77	1490	1	0.07	F	F	15001	1
0.64	14.82	202.88	1521	1	0.02	F	F	15001	1

## KODAIKANAL, INDIA

GEOGRAPHIC LATITUDE = 10.25 N

GEOGRAPHIC LONGITUDE = 77.46 E

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
20.00	-2.95	217.17	145	10	17.39	R	R	1305	1
19.00	-5.07	238.69	157	10	17.38	R	R	1279	1
18.90	-5.31	241.50	159	10	17.37	R	R	1256	1
18.80	-5.55	244.65	161	10	17.36	R	R	1235	1
18.70	-5.80	247.90	163	10	17.35	R	R	1216	1
18.60	-6.00	251.60	166	10	17.34	R	R	1198	1
18.50	-6.33	255.53	169	10	17.33	R	R	1182	1
18.40	-6.61	259.85	172	10	17.32	R	R	1166	1
18.30	-6.90	264.60	176	10	17.31	R	R	1152	1
18.20	-7.1	270.10	180	10	17.30	R	R	1138	1
18.10	-7.54	276.31	185	10	17.29	R	R	1126	1
18.00	-7.97	283.59	191	10	17.28	R	R	1114	1
17.90	-8.30	292.30	198	10	17.27	R	R	1102	1
17.80	-8.73	303.40	208	10	17.26	R	R	1092	1
17.70	-9.15	318.57	221	10	17.21	R	R	1044	1
17.60	-8.90	342.27	245	10	17.16	R	R	1004	1
17.59	-8.83	345.57	1548	1	17.11	R	R	971	1
17.50	-8.64	349.10	1569	1	17.06	R	R	942	1
17.57	-8.30	353.09	1591	1	17.01	R	P	916	1
17.50	-8.02	357.42	1610	1	17.00	R	R	140	10
17.55	-7.54	362.24	1644	1	16.96	R	R	892	1
17.54	-6.80	367.67	1670	1	16.91	R	R	871	1
17.53	-5.95	373.89	1712	1	16.86	R	R	852	1
17.52	-4.64	381.19	1755	1	16.81	R	R	834	1
17.51	-2.71	390.00	1809	1	16.76	R	R	817	1
17.50	.24	401.10	1877	1	16.71	R	R	802	1
17.49	5.00	416.60	1972	1	16.66	R	R	786	1
17.40	13.20	442.70	2130	1	16.61	R	R	774	1
17.47	-7.00	554.12	2761	1	16.56	R	R	761	1
17.40	N	N	1823	1	16.51	R	R	749	1
17.45	N	N	1839	1	16.46	R	R	737	1
17.44	N	N	1834	1	16.41	R	R	726	1
17.43	N	N	1465	1	16.36	R	R	716	1
17.42	N	N	1411	1	16.31	R	R	705	1
17.41	N	N	1369	1	16.26	R	R	697	1
17.40	N	N	1335	1	16.21	R	R	688	1

## KRONOGARD, SWEDEN

GEOGRAPHIC LATITUDE = 66.19 N

GEOGRAPHIC LONGITUDE = 19.58 E

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
1000.00	66.29	21.41	102	10	1.41	-8.85	105.14	884	1
900.00	66.30	21.42	102	10	1.39	-9.91	111.51	913	1
800.00	66.31	21.87	102	10	1.25	-10.62	116.38	937	1
700.00	66.32	22.20	102	10	1.21	-10.11	118.42	950	1
600.00	66.33	22.64	102	10	1.11	-9.77	128.85	998	1
500.00	66.35	23.20	102	10	1.01	-8.83	139.90	1057	1
400.00	66.36	24.18	102	10	1.00	-8.46	141.90	1066	1
300.00	66.36	25.72	102	10	0.95	-2.63	151.58	1112	1
200.00	66.28	28.78	102	10	0.91	-0.07	157.87	1148	1
100.00	65.38	37.44	102	10	0.90	.78	160.55	1160	1
90.00	65.06	39.20	102	10	0.86	7.16	174.50	1222	1
80.00	64.60	41.30	102	10	0.85	8.58	177.56	1237	1
70.00	63.93	43.81	102	10	0.83	10.47	183.29	1267	1
60.00	62.92	46.83	102	10	0.81	12.81	193.16	1307	1
50.00	61.31	50.42	102	10	0.80	14.39	201.22	1338	1
40.00	58.59	54.51	102	10	0.79	15.55	211.22	1375	1
30.00	53.72	58.56	103	10	0.78	14.59	222.05	1415	1
25.00	49.84	60.02	103	10	0.77	11.73	232.38	1458	1
20.00	44.57	60.39	104	10	0.76	7.11	242.49	1501	1
15.00	38.09	58.71	571	2	0.75	-1.29	256.42	1562	1
10.00	33.88	56.31	576	2	0.74	-22.24	290.37	1700	1
9.00	33.68	57.24	577	2	0.73	R	R	3567	1
8.00	32.97	59.53	576	2	0.72	-7.33	763.71	6157	1
7.00	30.43	63.05	239	7	0.71	18.25	417.96	4256	1
6.50	28.05	64.75	240	7	0.70	R	R	2245	1
6.00	25.01	65.93	242	7	0.69	10.68	495.00	4973	1
5.75	23.39	66.20	286	6	0.68	6.52	530.18	4845	1
5.50	21.84	66.28	287	6	0.67	-2.61	572.50	3829	1
5.25	20.52	66.14	288	6	0.66	F	F	15001	1
5.00	19.53	65.93	289	6	0.65	F	F	15001	1
4.75	19.00	65.82	347	5	0.64	F	F	15001	1
4.50	18.41	66.06	346	5	0.63	F	F	15001	1
4.25	18.67	66.99	349	5	0.62	F	F	15001	1
4.00	18.00	68.66	350	5	0.61	F	F	15001	1
3.75	16.19	70.90	484	4	0.60	F	F	15001	1
3.50	13.17	72.85	487	4	0.59	F	F	15001	1
3.25	10.05	73.82	491	4	0.58	F	F	15001	1
3.00	8.56	74.20	497	4	0.57	F	F	15001	1
2.75	8.23	75.99	574	3	0.56	F	F	15001	1
2.50	5.04	80.04	582	3	0.55	F	F	15001	1
2.25	.91	82.68	594	3	0.54	F	F	15001	1
2.00	-1.18	86.44	609	3	0.53	F	F	15001	1
1.81	-4.62	91.74	688	2	0.52	F	F	15001	1
1.75	5.15	92.72	695	2	0.51	F	F	15001	1
1.71	-5.14	93.37	699	2	0.50	F	F	15001	1
1.61	-5.70	96.50	712	2	0.49	F	F	15001	1
1.51	-8.37	101.72	730	2	0.48	F	F	15001	1
1.50	-8.59	102.18	864	1	0.47	F	F	15001	1



ARONUGARD, SWEDEN (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 66.14 N

GEOGRAPHIC LONGITUDE = 19.58 E

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
0.40	F	F	15001	1	0.25	R	R	8840	1
0.45	F	F	15001	1	0.20	R	R	5807	1
0.40	F	F	15001	1	0.15	R	R	7202	1
0.35	F	F	15001	1	0.10	R	R	10700	1
0.30	F	F	15001	1	0.05	F	F	15001	1

## LAE, NEW GUINEA

GEOGRAPHIC LATITUDE - 6.73 S

GEOGRAPHIC LONGITUDE = 147.00 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	4.05	261.58	130	10	15.47	R	R	1525	1
19.00	2.62	272.46	136	10	15.46	R	R	1455	1
18.00	-0.79	286.89	144	10	15.45	R	R	1407	1
17.00	-8.15	308.49	159	10	15.44	R	R	1368	1
16.90	-9.18	311.41	161	10	15.43	R	R	1336	1
16.80	-10.31	314.57	163	10	15.42	R	R	1309	1
16.70	-11.50	318.01	166	10	15.41	R	R	1284	1
16.60	-12.74	321.77	169	10	15.40	R	R	1262	1
16.50	-14.02	325.92	172	10	15.39	R	R	1241	1
16.40	-15.31	330.59	176	10	15.38	R	R	1223	1
16.30	-16.50	335.85	179	10	15.37	R	R	1206	1
16.20	-17.67	341.92	184	10	15.36	R	R	1190	1
16.10	-18.48	344.02	190	10	15.35	R	R	1175	1
16.00	-18.68	357.47	197	10	15.34	R	R	1161	1
15.90	-17.71	367.72	205	10	15.33	R	R	1148	1
15.80	-14.41	380.48	217	10	15.32	R	R	1135	1
15.70	-8.30	397.07	234	10	15.31	R	R	1124	1
15.69	-5.04	399.04	1468	1	15.26	R	R	1073	1
15.68	-3.67	401.12	1502	1	15.21	R	R	1031	1
15.67	-2.18	403.30	1518	1	15.16	R	R	996	1
15.66	-0.52	405.60	1534	1	15.11	R	R	965	1
15.65	1.27	408.04	1551	1	15.06	R	R	938	1
15.64	3.23	410.64	1570	1	15.01	R	R	912	1
15.63	5.38	413.45	1590	1	15.00	R	R	140	10
15.62	7.73	416.51	1612	1	14.98	R	R	890	1
15.61	10.29	419.89	1636	1	14.91	R	R	870	1
15.60	13.09	423.71	1663	1	14.86	R	R	851	1
15.59	16.10	428.10	1693	1	14.81	R	R	834	1
15.58	19.32	433.31	1727	1	14.76	R	R	817	1
15.57	22.63	439.69	1767	1	14.71	R	R	802	1
15.56	25.78	447.80	1814	1	14.66	R	R	787	1
15.55	28.14	458.52	1872	1	14.61	R	R	774	1
15.54	29.18	473.01	1947	1	14.56	R	R	763	1
15.53	21.98	498.38	2034	1	14.51	R	R	749	1
15.52	-0.20	519.81	2246	1	14.46	R	R	738	1
15.51	N	N	2396	1	14.41	R	R	728	1
15.50	N	N	1890	1	14.36	R	R	718	1
15.49	N	N	1848	1	14.31	R	R	708	1
15.48	N	N	2082	1	14.26	R	R	699	1

## LEEDS, ENGLAND

GEOGRAPHIC LATITUDE = 53.82 N

GEOGRAPHIC LONGITUDE = 358.45 E

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
15.00	14.46	49.22	109	10	2.19	R	R	5813	1
14.00	11.92	49.42	109	10	2.18	-11.86	725.57	5943	1
13.00	9.45	49.59	156	9	2.17	F	F	15001	1
12.00	7.19	49.74	157	9	2.16	R	R	13504	1
11.00	5.34	49.94	205	8	2.15	9.51	960.68	7371	1
10.00	4.11	50.38	250	7	2.14	-13.47	354.59	2080	1
9.00	3.64	51.42	251	7	2.13	3.74	513.15	4227	1
8.00	3.64	53.81	297	6	2.12	F	F	15001	1
7.00	2.68	58.79	358	5	2.11	-1.49	522.67	3844	1
6.00	-2.11	67.54	364	5	2.10	F	F	15001	1
5.00	-10.31	80.07	520	4	2.09	R	R	5075	1
4.00	-9.86	92.91	621	3	2.08	F	F	15001	1
3.90	-9.40	94.53	623	3	2.07	F	F	15001	1
3.80	-9.01	96.46	625	3	2.06	R	R	1774	1
3.70	-8.71	98.86	627	3	2.05	R	R	1730	1
3.60	-8.50	101.86	631	3	2.04	R	R	1812	1
3.50	-8.32	105.54	635	3	2.03	R	R	5008	1
3.40	-8.04	110.01	641	3	2.02	R	R	4013	1
3.30	-7.38	115.36	649	3	2.01	F	F	15001	1
3.20	-5.97	121.55	660	3	2.00	F	F	15001	1
3.10	-3.52	128.42	672	3	1.99	R	R	14829	1
3.00	.18	135.76	758	2	1.98	F	F	15001	1
2.90	4.80	143.39	770	2	1.97	R	R	5098	1
2.80	9.48	151.25	795	2	1.96	F	F	15001	1
2.70	13.33	159.72	815	2	1.95	R	R	13388	1
2.60	15.96	170.06	836	2	1.94	F	F	15001	1
2.50	17.22	186.00	867	2	1.93	F	F	15001	1
2.40	18.62	219.77	941	2	1.92	R	R	2289	1
2.39	8.04	225.44	1137	1	1.91	F	F	15001	1
2.38	4.82	232.00	1186	1	1.90	F	F	15001	1
2.37	-3.31	239.82	1184	1	1.89	F	F	15001	1
2.36	-7.00	249.82	1220	1	1.88	F	F	15001	1
2.35	-16.17	264.80	1271	1	1.87	F	F	15001	1
2.34	-25.98	293.78	1361	1	1.86	F	F	15001	1
2.33	7.49	326.98	2586	1	1.85	F	F	15001	1
2.32	10.61	448.34	3419	1	1.84	R	R	3142	1
2.31	-18.48	650.83	5236	1	1.83	R	R	14405	1
2.30	17.80	424.98	2327	1	1.82	R	R	1684	1
2.29	-3.84	369.74	2191	1	1.81	R	R	1771	1
2.28	.29	372.36	2386	1	1.80	R	R	13859	1
2.27	H	H	6031	1	1.79	F	F	15001	1
2.26	-3.07	548.74	4526	1	1.78	R	R	13502	1
2.25	H	H	1411	1	1.77	R	R	2250	1
2.24	H	H	1402	1	1.76	R	R	3330	1
2.23	H	H	1578	1	1.75	F	F	15001	1
2.22	10.37	426.99	3600	1	1.70	F	F	15001	1
2.21	-8.30	360.27	2800	1	1.65	R	R	6638	1
2.20	H	H	4093	1	1.60	R	R	2616	1

C86

LEEDS, ENGLAND (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 53.82 N

GEOGRAPHIC LONGITUDE = 358.45 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
1.50	F	F	15001	1	1.15	F	F	15001	1
1.50	K	K	9611	1	1.10	F	F	15001	1
1.40	F	F	15001	1	1.05	R	R	11658	1
1.40	F	F	15001	1	1.00	R	R	1441	1
1.30	K	K	2419	1	0.95	R	R	3598	1
1.30	F	F	15001	1	0.90	R	R	1516	1
1.20	K	K	10880	1	0.85	R	R	1561	1
1.20	K	K	9751	1	0.80	R	R	1560	1
					0.75	R	R	1666	1

## LLRWICK, SCOTLAND

GEOGRAPHIC LATITUDE = 60.15 N

GEOGRAPHIC LONGITUDE = 358.85 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	36.45	44.22	105	10	1.17	16.54	418.44	2920	1
19.00	34.83	44.35	105	10	1.16	20.78	421.26	3145	1
18.00	33.13	44.34	105	10	1.15	-5.76	703.13	6708	1
17.00	31.34	44.29	106	10	1.14	10.99	743.46	6305	1
16.00	29.49	44.09	106	10	1.13	R	R	1779	1
15.00	27.61	43.76	106	10	1.12	-14.74	670.29	7365	1
14.00	25.75	43.37	107	10	1.11	R	R	6937	1
13.00	24.01	42.82	151	9	1.10	R	R	2966	1
12.00	22.51	42.24	152	9	1.09	-9.32	594.77	5410	1
11.00	21.37	41.70	198	8	1.08	-3.58	586.59	4049	1
10.00	20.73	41.47	242	7	1.07	-1.49	1459.05	11446	1
9.00	20.58	41.96	242	7	1.06	2.04	1591.09	13112	1
8.00	20.44	43.90	286	6	1.05	R	R	9164	1
7.00	18.79	47.85	344	5	1.04	F	F	15001	1
6.00	13.37	52.95	348	5	1.03	F	F	15001	1
5.00	5.50	56.11	486	4	1.02	F	F	15001	1
4.00	3.57	59.12	566	3	1.01	F	F	15001	1
3.00	-6.25	72.55	593	3	1.00	F	F	15001	1
2.90	-6.54	73.45	656	2	0.99	F	F	15001	1
2.80	-6.46	74.37	659	2	0.98	F	F	15001	1
2.70	-6.27	75.69	663	2	0.97	R	R	3163	1
2.60	-6.39	77.73	667	2	0.96	F	F	15001	1
2.50	-7.19	80.67	671	2	0.95	R	R	12722	1
2.40	-8.60	84.47	676	2	0.94	R	R	2088	1
2.30	-10.18	88.60	687	2	0.93	F	F	15001	1
2.20	-10.84	92.22	697	2	0.92	F	F	15001	1
2.10	-10.34	94.86	706	2	0.91	F	F	15001	1
2.00	-9.51	97.75	715	2	0.90	F	F	15001	1
1.90	-9.36	103.04	727	2	0.89	R	R	6148	1
1.80	-9.09	111.51	745	2	0.88	R	R	12915	1
1.70	-6.51	119.36	766	2	0.87	F	F	15001	1
1.60	-3.55	125.19	785	2	0.78	F	F	15001	1
1.50	.35	137.70	966	1	0.73	F	F	15001	1
1.40	10.21	156.92	1026	1	0.68	F	F	15001	1
1.30	16.19	179.18	1100	1	0.63	R	R	3323	1
1.29	16.77	183.60	1112	1	0.58	F	F	15001	1
1.28	17.23	189.12	1126	1	0.53	F	F	15001	1
1.27	17.35	195.75	1146	1	0.48	R	R	7292	1
1.26	16.72	203.80	1169	1	0.43	R	R	2893	1
1.25	14.65	213.55	1197	1	0.38	R	R	3043	1
1.24	10.03	225.16	1231	1	0.33	R	R	3535	1
1.23	1.07	239.51	1279	1	0.28	R	R	3764	1
1.22	-14.73	260.81	1352	1	0.23	R	R	4481	1
1.21	-23.14	325.44	1526	1	0.18	R	R	5656	1
1.20	14.62	505.36	3390	1	0.13	R	R	7759	1
1.19	-4.12	311.71	1640	1	0.08	R	R	12527	1
1.18	-10.40	573.65	4786	1	0.03	F	F	15001	1

## LIMEIL, FRANCE

LIMEIL, FR

GEOGRAPHIC

GEOGRAPHIC LATITUDE = 48.73 N GEOGRAPHIC LONGITUDE = 2.41 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
0.00	17.07	55.45	108	10	3.58	R	R	5360	1
0.00	14.71	56.36	108	10	3.67	.91	534.62	4086	1
0.00	12.16	57.34	109	10	3.66	R	R	4264	1
0.00	9.44	58.34	110	10	3.65	R	R	1430	1
0.00	6.54	59.39	110	10	3.64	R	R	1351	1
0.00	3.51	60.54	111	10	3.63	R	R	1328	1
0.00	.43	61.81	113	10	3.62	R	R	1315	1
0.00	-2.59	63.20	161	9	3.61	R	R	1307	1
0.00	-5.35	64.97	163	9	3.60	R	R	1303	1
0.00	-7.57	66.98	214	8	3.59	R	R	1304	1
0.00	-8.91	69.41	263	7	3.58	R	R	1312	1
0.00	-9.13	72.45	265	7	3.57	R	R	1337	1
0.00	-8.36	76.80	315	6	3.56	R	R	1374	1
0.00	-7.71	84.40	381	5	3.55	R	R	12298	1
0.00	-8.99	99.88	393	5	3.54	F	F	15001	1
0.00	-3.60	133.23	591	4	3.53	12.06	464.53	4432	1
9.00	-1.18	138.09	601	4	3.52	.30	521.89	3475	1
8.00	1.76	143.35	612	4	3.51	F	F	15001	1
7.00	5.20	149.09	623	4	3.50	-14.31	642.05	6396	1
6.00	9.00	155.54	636	4	3.49	R	R	5512	1
5.00	12.91	162.98	746	3	3.48	R	R	10181	1
4.00	16.45	171.86	766	3	3.47	13.97	439.33	3064	1
3.00	18.91	182.75	791	3	3.46	R	R	8913	1
2.00	18.98	196.22	816	3	3.45	F	F	15001	1
1.00	14.54	212.96	853	3	3.44	R	R	8661	1
0.00	1.18	235.36	907	3	3.43	R	R	3996	1
9.00	-26.94	248.27	1053	3	3.42	R	R	6892	1
8.00	-22.94	319.96	1458	1	3.41	F	F	15001	1
7.00	-1.64	355.87	1587	1	3.40	4.82	917.67	10659	1
6.00	16.43	454.86	2651	1	3.39	2.20	566.72	4720	1
5.00	.96	477.51	4668	1	3.38	-2.92	929.26	9312	1
4.00	R	R	5333	1	3.37	R	R	2181	1
3.00	.24	547.45	4873	1	3.36	R	R	5891	1
2.00	2.55	604.58	8958	1	3.35	R	R	5225	1
1.00	F	F	15001	1	3.34	R	R	3358	1
0.00	-2.42	848.61	8797	1	3.33	R	R	13865	1
9.00	-6.43	338.33	1512	3	3.32	R	R	4939	1
8.00	-10.65	306.16	1854	1	3.31	R	R	3594	1
7.00	-2.76	341.83	1971	1	3.30	R	R	1811	1
6.00	.98	411.52	2699	1	3.29	R	R	1742	1
5.00	6.16	489.37	4043	1	3.28	R	R	1761	1
4.00	R	R	4596	1	3.27	R	R	6094	1
3.00	9.40	491.47	3643	1	3.26	R	R	11228	1
2.00	19.58	476.10	3343	1	3.25	R	R	5968	1
1.00	-8.79	919.02	8175	1	3.24	F	F	15001	1
0.00	-8.26	917.18	11151	1	3.23	F	F	15001	1
9.00	7.68	442.48	3101	1	3.22	R	R	9673	1
8.00	-1.74	512.11	3907	1	3.21	R	R	2369	1

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FRANCE (CONTINUED - PAGE 2)

ASYMPTOTIC LATITUDE = 48.73 N GEOGRAPHIC LONGITUDE = 2.41 E

ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
K	K	2387	1	2.77	F	F	15001	1
F	F	15001	1	2.72	F	F	15001	1
K	K	17160	1	2.67	R	R	4581	1
F	F	15001	1	2.62	F	F	15001	1
K	K	10890	1	2.57	F	F	15001	1
K	K	1655	1	2.52	F	F	15001	1
K	K	11403	1	2.47	R	R	14624	1
K	K	1870	3	2.42	R	R	9582	1
F	F	15001	1	2.37	R	R	8921	1
K	K	7399	1	2.32	R	R	13055	1
F	F	15001	1	2.27	R	R	4941	1
K	K	1903	1	2.22	R	R	4200	1

## LINCOLN, UNITED STATES

GEOGRAPHIC LATITUDE = 40.82 N

GEOGRAPHIC LONGITUDE = 263.32 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	6.30	-02.10	106	11	2.33	17.22	416.13	4971	1
19.00	4.30	-01.80	107	10	2.32	R	R	1446	1
18.00	2.24	-01.64	107	10	2.31	R	R	1433	1
17.00	0.00	-01.44	106	10	2.30	R	R	1500	1
16.00	-2.33	-01.32	108	10	2.29	10.85	405.17	4562	1
15.00	-4.73	-01.25	109	10	2.28	-14.55	255.90	2640	1
14.00	-7.13	-01.25	109	10	2.27	.36	523.35	6512	1
13.00	-9.43	-01.27	155	9	2.26	F	F	15001	1
12.00	-11.50	-01.27	150	9	2.25	-6.75	236.19	2686	1
11.00	-13.18	-01.13	204	8	2.24	R	R	9787	1
10.00	-14.33	-00.60	249	7	2.23	R	R	7482	1
9.00	-14.40	-09.23	250	7	2.22	18.78	1213.99	12454	1
8.00	-15.60	-06.20	295	6	2.21	F	F	15001	1
7.00	-18.00	-00.37	350	5	2.20	12.98	1170.19	13834	1
6.00	-23.90	-40.64	364	5	2.19	-10.01	242.76	2153	1
5.00	-00.20	-27.13	520	4	2.18	R	R	9798	1
4.00	-27.00	-13.09	610	3	2.17	F	F	15001	1
3.90	-26.47	-10.70	618	3	2.16	-12.85	301.69	3527	1
3.80	-25.80	-7.70	621	3	2.15	F	F	15001	1
3.70	-25.02	-4.29	625	3	2.14	5.03	1213.95	11570	1
3.60	-23.97	-.17	631	3	2.13	11.46	505.82	5487	1
3.50	-22.48	4.40	637	3	2.12	F	F	15001	1
3.40	-20.20	9.59	640	3	2.11	R	R	14788	1
3.30	-17.14	14.90	657	3	2.10	F	F	15001	1
3.20	-12.90	20.01	669	3	2.09	F	F	15001	1
3.10	-7.80	24.93	682	3	2.08	R	R	1788	1
3.00	-2.32	29.51	760	2	2.07	R	R	1773	1
2.90	3.19	34.09	781	2	2.06	R	R	1820	1
2.80	8.52	39.42	797	2	2.05	F	F	15001	1
2.70	14.10	46.84	815	2	2.04	R	R	10218	1
2.60	21.32	59.50	844	2	2.03	-9.28	1346.11	13092	1
2.50	28.30	68.22	904	2	2.02	R	R	6990	1
2.49	28.29	43.00	1080	1	2.01	F	F	15001	1
2.40	27.70	48.51	1102	1	2.00	F	F	15001	1
2.41	26.64	104.50	1116	1	1.99	F	F	15001	1
2.40	24.64	111.32	1137	1	1.98	F	F	15001	1
2.45	21.43	118.87	1160	1	1.97	F	F	15001	1
2.44	18.50	127.43	1180	1	1.96	R	R	11524	1
2.43	9.35	137.50	1225	1	1.95	F	F	15001	1
2.42	-1.04	151.12	1277	1	1.94	R	R	3579	1
2.41	-13.95	175.92	1365	1	1.93	F	F	15001	1
2.40	7.75	206.10	1739	1	1.92	R	R	14484	1
2.39	-12.00	248.64	2615	1	1.91	F	F	15001	1
2.30	-11.63	355.23	2903	1	1.90	R	R	1951	1
2.31	-3.57	194.74	1624	1	1.89	R	R	1703	1
2.30	8.17	221.62	2142	1	1.88	R	R	1811	1
2.35	14.44	198.40	2214	1	1.87	F	F	15001	1
2.34	14.14	202.85	2411	1	1.86	R	R	8306	1



LINCOLN, UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 40.82 N

GEOGRAPHIC LONGITUDE = 263.32 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
1.85	F	F	15001	1	1.50	R	R	4149	1
1.84	K	K	2320	1	1.45	R	R	13104	1
1.83	F	F	15001	1	1.40	R	R	2376	1
1.82	F	F	15001	1	1.35	F	F	15001	1
1.81	F	F	15001	1	1.30	F	F	15001	1
1.80	F	F	15001	1	1.25	F	F	15001	1
1.79	F	F	15001	1	1.20	F	F	15001	1
1.78	K	K	11969	1	1.15	F	F	15001	1
1.77	F	F	15001	1	1.10	F	F	15001	1
1.76	F	F	15001	1	1.05	R	R	1488	1
1.75	K	K	14763	1	1.00	R	R	8577	1
1.74	F	F	15001	1	0.95	R	R	1463	1
1.65	K	K	1922	1	0.90	R	R	1594	1
1.60	K	K	4053	1	0.85	R	R	1499	1
1.55	K	K	6747	1	0.80	R	R	1599	1
					0.75	R	R	1558	1

## LINDAU, GERMANY

GEOGRAPHIC LATITUDE = 51.60 N

GEOGRAPHIC LONGITUDE = 10.10 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	20.37	00.09	107	10	3.14	5.77	503.51	5126	1
19.00	18.18	00.77	108	10	3.13	5.93	434.52	3842	1
18.00	15.85	01.45	108	10	3.12	R	R	1436	1
17.00	13.35	02.09	109	10	3.11	R	R	1337	1
16.00	10.69	02.74	109	10	3.10	R	R	1315	1
15.00	7.95	03.42	110	10	3.09	R	R	1317	1
14.00	5.10	04.15	111	10	3.08	R	R	1343	1
13.00	2.44	04.50	158	9	3.07	R	R	1462	1
12.00	-.05	05.79	160	9	3.06	R	R	6487	1
11.00	-2.10	06.80	209	8	3.05	-7.37	375.60	2937	1
10.00	-3.40	08.27	250	7	3.04	R	R	10272	1
9.00	-3.95	13.35	258	7	3.03	-18.52	620.76	5789	1
8.00	-5.85	13.79	305	6	3.02	-5.57	1048.89	9485	1
7.00	-4.40	00.29	369	5	3.01	9.11	482.74	3585	1
6.00	-8.09	92.71	378	5	3.00	-.25	880.58	7214	1
5.00	-11.28	115.59	552	4	2.99	R	R	14127	1
4.00	3.45	145.82	695	3	2.98	7.02	395.62	2666	1
3.90	5.22	149.70	702	3	2.97	10.85	474.68	2541	1
3.80	7.00	154.44	709	3	2.96	-12.08	347.07	2129	1
3.70	8.87	160.30	719	3	2.95	R	R	7828	1
3.60	10.90	168.10	731	3	2.94	R	R	2215	1
3.50	13.37	179.25	750	3	2.93	R	R	3033	1
3.40	15.27	196.37	781	3	2.92	5.44	392.47	2618	1
3.39	15.31	198.65	1028	1	2.91	R	R	10591	1
3.38	15.29	201.05	1034	1	2.90	R	R	5887	1
3.37	15.20	203.50	1041	1	2.89	7.99	810.05	6392	1
3.36	15.00	206.31	1049	1	2.88	.56	993.38	8665	1
3.35	14.70	209.20	1050	1	2.87	R	R	1772	1
3.34	14.20	212.30	1065	1	2.86	R	R	1756	1
3.33	13.64	215.65	1074	1	2.85	R	R	1905	1
3.32	12.79	219.22	1085	1	2.84	-3.90	541.06	4940	1
3.31	11.68	223.00	1090	1	2.83	R	R	13167	1
3.30	10.25	227.27	1109	1	2.82	-9.57	590.86	4476	1
3.29	8.34	231.85	1125	1	2.81	R	R	14560	1
3.28	5.89	236.95	1140	1	2.80	R	R	14621	1
3.27	2.75	242.61	1159	1	2.79	R	R	10565	1
3.26	-1.31	248.17	1182	1	2.78	1.79	601.14	5314	1
3.25	-6.57	257.00	1211	1	2.77	-11.05	606.59	6621	1
3.24	-13.31	267.40	1240	1	2.76	R	R	2403	1
3.23	-21.47	283.28	1302	1	2.75	R	R	2400	1
3.22	-28.60	314.29	1394	1	2.74	R	R	2394	1
3.21	-38.35	616.95	2837	1	2.73	R	R	2379	1
3.20	R	R	1090	1	2.72	R	R	2365	1
3.19	R	R	8215	1	2.71	R	R	2364	1
3.18	-6.35	320.25	1834	1	2.70	R	R	2396	1
3.17	.01	327.40	2480	1	2.69	R	R	5576	1
3.16	12.08	502.50	4505	1	2.68	R	R	7063	1
3.15	-14.70	582.92	4127	1	2.67	F	F	15001	1

LINDAU, GERMANY (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 51.60 N

GEOGRAPHIC LONGITUDE = 10.10 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
2.60	K	K	4452	1	2.30	F	F	15001	1
2.60	F	F	15001	1	2.25	R	R	2020	1
2.64	K	K	13399	1	2.20	R	R	8995	1
2.60	F	F	15001	1	2.15	R	R	5428	1
2.62	F	F	15001	1	2.10	F	F	15001	1
2.61	K	K	2260	1	2.05	R	R	2033	1
2.60	F	F	15001	1	2.00	R	R	2008	1
2.59	K	K	7787	1	1.95	R	R	7911	1
2.58	K	K	9231	1	1.90	R	R	9991	1
2.57	K	K	5123	1	1.85	R	R	2014	1
2.50	F	F	15001	1	1.80	F	F	15001	1
2.51	K	K	5915	1	1.75	F	F	15001	1
2.40	K	K	1650	1	1.70	F	F	15001	1
2.41	F	F	15001	1	1.65	R	R	1307	1
2.40	K	K	5609	1	1.60	R	R	1306	1
2.35	K	K	3029	1	1.55	R	R	1389	1

## LUMNICKY STIT, CZECHOSLOVAKIA

GEOGRAPHIC LATITUDE = 49.20 N

GEOGRAPHIC LONGITUDE = 20.22 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	15.04	71.90	108	10	4.22	15.60	444.16	3142	1
19.00	12.74	72.82	108	10	4.21	-3.82	316.94	1891	1
18.00	10.23	73.80	109	10	4.20	-14.18	305.18	1465	3
17.00	7.54	74.84	110	10	4.19	-2.57	346.51	1997	1
16.00	4.71	75.93	110	10	4.18	1.90	380.03	2641	1
15.00	1.77	77.21	112	10	4.17	.35	610.48	5846	1
14.00	-1.14	78.61	113	10	4.16	19.93	411.13	3450	1
13.00	-4.05	80.20	162	9	4.15	-1.17	333.84	2191	1
12.00	-6.62	82.21	163	9	4.14	8.78	482.46	4009	1
11.00	-8.60	84.50	214	8	4.13	-6.61	363.83	2836	1
10.00	-9.70	87.42	263	7	4.12	-10.06	735.21	4326	1
9.00	-9.71	91.05	260	7	4.11	-.29	396.00	3006	1
8.00	-8.88	96.23	310	6	4.10	19.33	460.97	3586	1
7.00	-8.20	105.22	385	5	4.09	5.88	400.89	3171	1
6.00	-8.74	123.49	400	5	4.08	6.16	405.19	3386	1
5.90	-8.65	126.24	553	4	4.07	R	R	1593	1
5.80	-8.45	129.23	557	4	4.06	R	R	1411	1
5.70	-8.10	132.47	561	4	4.05	R	R	1382	1
5.60	-7.54	136.00	567	4	4.04	R	R	1362	1
5.50	-6.71	139.84	573	4	4.03	R	R	1340	1
5.40	-5.55	144.02	580	4	4.02	R	R	1325	1
5.30	-3.94	148.57	588	4	4.01	R	R	1314	1
5.20	-1.95	153.55	597	4	4.00	R	R	1307	1
5.10	.62	159.03	607	4	3.99	R	R	1304	1
5.00	3.70	165.18	614	4	3.98	R	R	1301	1
4.90	7.40	172.24	634	4	3.97	R	R	1300	1
4.80	11.35	180.61	650	4	3.96	R	R	1301	1
4.70	15.00	191.03	670	4	3.95	R	R	1303	1
4.60	17.24	204.53	695	4	3.94	R	R	1306	1
4.50	15.23	222.48	840	3	3.93	R	R	1313	1
4.40	2.33	247.08	902	3	3.92	R	R	1327	1
4.39	-.03	250.21	1190	1	3.91	R	R	1364	1
4.38	-2.73	253.54	1203	1	3.90	R	R	1401	1
4.37	-5.73	257.30	1218	1	3.89	6.18	513.63	5609	1
4.36	-9.00	261.40	1234	1	3.88	16.90	451.31	3551	1
4.35	-12.70	266.23	1252	1	3.87	R	R	2539	1
4.34	-16.81	271.95	1273	1	3.86	18.09	453.06	3804	1
4.33	-21.10	279.04	1298	1	3.85	R	R	6851	1
4.32	-25.32	286.55	1328	1	3.84	R	R	3905	1
4.31	-28.44	301.81	1368	1	3.83	R	R	10024	1
4.30	-27.77	321.20	1423	1	3.82	R	R	8096	1
4.29	-14.30	349.52	1518	1	3.81	-1.83	534.34	5124	1
4.28	-20.64	601.80	4425	1	3.80	R	R	11205	1
4.27	1.35	435.37	2560	1	3.79	19.13	472.09	4714	1
4.26	R	R	1610	1	3.78	R	R	12122	1
4.25	-10.27	382.48	2717	1	3.77	F	F	15001	1
4.24	3.09	450.20	3454	1	3.76	-4.89	536.59	5397	1
4.23	-2.43	474.87	3073	1	3.75	F	F	15001	1

ILKY STIT, CZECHOSLOVAKIA

(CONTINUED - PAGE 2)

GRAPHIC LATITUDE = 49.20 N

GEOGRAPHIC LONGITUDE = 20.22 E

ASYMPTOTIC				ASYMPTOTIC					
LAT LONG		NSTEP	SS	P	LAT LONG		NSTEP	SS	
74	K	R	2864	1	3.38	R	R	10202	1
73	14.20	843.85	8000	1	3.37	R	R	2916	1
72	-16.03	654.24	6191	1	3.36	R	R	13689	1
71	K	R	4900	1	3.35	R	R	6082	1
70	K	R	3636	1	3.34	R	R	2306	1
69	K	R	6319	1	3.33	R	R	5371	1
68	K	R	2860	1	3.32	F	F	15001	1
67	K	R	6873	1	3.31	R	R	6494	1
66	K	R	3224	1	3.30	R	R	10186	1
65	K	R	3186	1	3.29	F	F	15001	1
64	K	R	7705	1	3.28	R	R	12077	1
63	K	R	2195	1	3.27	R	R	1676	1
62	K	R	2260	1	3.26	R	R	1624	1
61	K	R	5504	1	3.25	R	R	1622	1
60	F	F	15001	1	3.24	R	R	1658	1
59	K	R	11057	1	3.19	R	R	13468	1
58	K	R	13114	1	3.14	R	R	3214	1
57	K	R	5276	1	3.09	R	R	6175	1
56	F	F	15001	1	3.04	R	R	4842	1
55	10.33	1197.44	14300	1	2.99	R	R	9015	1
54	K	R	3491	1	2.94	F	F	15001	1
53	K	R	10457	1	2.89	R	R	7187	1
52	K	R	1761	1	2.84	R	R	1880	1
51	K	R	1716	1	2.79	R	R	2702	1
50	K	R	1721	1	2.74	F	F	15001	1
49	K	R	1788	1	2.69	F	F	15001	1
48	K	R	10992	1	2.64	R	R	5875	1
47	K	R	11157	1	2.59	F	F	15001	1
46	K	R	10631	1	2.54	R	R	7124	1
45	F	F	15001	1	2.49	F	F	15001	1
44	K	R	12130	1	2.44	R	R	13720	1
43	K	R	13447	1	2.39	R	R	12566	1
42	K	R	11816	1	2.34	R	R	6950	1
41	F	F	15001	1	2.29	R	R	2817	1
40	K	R	2296	1	2.24	R	R	2154	1
39	F	F	15001	1	2.19	R	R	8313	1
					1.35	R	R	1041	1

## LONDON, ENGLAND

GEOGRAPHIC LATITUDE = 51.53 N

GEOGRAPHIC LONGITUDE = 359.91 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	21.90	50.50	107	10	2.87	R	R	1330	1
19.00	19.73	51.15	107	10	2.86	R	R	1347	1
18.00	17.39	51.80	106	10	2.85	R	R	1406	1
17.00	14.90	52.41	108	10	2.84	15.44	487.07	4941	1
16.00	12.26	53.01	109	10	2.83	13.32	463.52	4196	1
15.00	9.51	53.61	110	10	2.82	24.02	819.31	6785	1
14.00	6.72	54.19	110	10	2.81	-11.98	645.25	4685	1
13.00	3.98	54.82	158	9	2.80	-11.83	346.00	2762	1
12.00	1.45	55.51	159	9	2.79	-6.85	605.36	5669	1
11.00	-.64	56.32	208	8	2.78	-13.87	352.91	2736	1
10.00	-2.03	57.40	255	7	2.77	-3.29	852.62	9573	1
9.00	-2.54	59.06	256	7	2.76	-4.04	404.90	2474	1
8.00	-2.39	62.05	304	6	2.75	R	R	2421	1
7.00	-2.87	67.87	366	5	2.74	3.88	1094.98	10715	1
6.00	-6.74	78.97	374	5	2.73	1.46	524.20	5189	1
5.00	-12.13	98.49	542	4	2.72	-9.23	649.98	5991	1
4.00	-3.27	121.91	668	3	2.71	-15.59	588.32	4698	1
3.90	-1.95	124.56	672	3	2.70	-6.80	674.26	6460	1
3.80	-.64	127.67	677	3	2.69	R	R	5639	1
3.70	.71	131.48	682	3	2.68	-5.62	608.99	3414	1
3.60	2.27	136.29	689	3	2.67	19.78	458.16	2523	1
3.50	4.25	142.55	698	3	2.66	8.16	458.45	2444	1
3.40	7.02	150.90	712	3	2.65	R	R	3941	1
3.30	10.97	162.52	733	3	2.64	R	R	2166	1
3.20	15.72	180.22	767	3	2.63	R	R	4965	1
3.10	15.00	211.68	829	3	2.62	R	R	7181	1
3.09	13.71	216.21	1103	1	2.61	-12.24	1394.93	14639	1
3.08	11.80	221.10	1116	1	2.60	18.20	826.74	7913	1
3.07	9.30	226.44	1136	1	2.59	R	R	3811	1
3.06	6.03	232.34	1156	1	2.58	R	R	9957	1
3.05	1.64	239.81	1179	1	2.57	R	R	8282	1
3.04	-4.11	246.91	1209	1	2.56	R	R	3273	1
3.03	-11.60	257.08	1247	1	2.55	F	F	15001	1
3.02	-20.85	272.49	1300	1	2.54	F	F	15001	1
3.01	-27.64	303.48	1396	1	2.53	R	R	3867	1
3.00	-3.80	358.87	2182	1	2.52	R	R	1745	1
2.99	H	R	1688	1	2.51	R	R	1723	1
2.98	17.98	413.97	2463	1	2.50	R	R	1782	1
2.97	-4.30	314.29	1834	1	2.49	-8.86	1343.71	12330	1
2.96	1.83	552.98	3230	1	2.48	F	F	15001	1
2.95	H	R	13202	1	2.47	R	R	9028	1
2.94	25.57	450.55	3321	1	2.46	R	R	5213	1
2.93	-.44	412.88	2504	1	2.45	F	F	15001	1
2.92	2.61	389.79	2965	1	2.44	R	R	11579	1
2.91	20.23	407.42	3999	1	2.43	R	R	7849	1
2.90	H	H	1420	1	2.42	F	F	15001	1
2.89	H	H	1381	1	2.41	R	R	2260	1
2.88	H	H	1331	1	2.40	F	F	15001	1

W, ENGLAND (CONTINUED - PAGE 2)

GRAPHIC LATITUDE = 51.53 N

GEOGRAPHIC LONGITUDE = 359.91 E

ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
K	K	2815	1	2.15	F	F	15001	1
K	K	4929	1	2.14	F	F	15001	1
K	K	2232	1	2.09	F	F	15001	1
K	K	10804	1	2.04	R	R	3234	1
F	F	15001	1	2.00	F	F	13502	2
K	K	12641	1	1.99	R	R	8478	1
K	K	9683	1	1.94	R	R	8558	1
F	F	15001	1	1.89	F	F	15001	1
K	K	1679	1	1.84	F	F	15001	1
K	K	1689	1	1.79	R	R	3698	1
K	K	8297	1	1.74	F	F	15001	1
K	K	14640	1	1.69	F	F	15001	1
K	K	12321	1	1.64	F	F	15001	1
K	K	10086	1	1.59	R	R	2364	1
F	F	15001	1	1.54	F	F	15001	1
K	K	13840	1	1.49	R	R	2273	1
K	K	7436	1	1.44	R	R	2520	1
K	K	3748	1	1.39	R	R	13800	1
K	K	9066	1	1.34	R	R	1241	1
F	F	15001	1	1.29	R	R	1291	1
K	K	3986	1	1.24	F	F	15001	1
F	F	15001	1	1.19	R	R	1456	1
F	F	15001	1	1.14	R	R	1276	1
F	F	15001	1	1.09	R	R	1296	1
				0.25	R	R	3675	1

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## MACQUARIE ISLANDS

GEOGRAPHIC LATITUDE = 54.50 S

GEOGRAPHIC LONGITUDE = 158.90 E

U	ASYMPTOTIC		NSTEP	SS	V	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
20.00	-40.01	196.71	103	10	0.63	-21.42	368.48	1598	1
19.00	-38.84	196.89	103	10	0.62	-16.27	382.14	1660	1
18.00	-37.65	197.00	104	10	0.61	3.14	407.98	1790	1
17.00	-36.37	197.00	104	10	0.60	1.97	855.27	6052	1
16.00	-35.11	196.90	104	10	0.59	7.86	450.40	2462	1
15.00	-33.87	196.68	104	10	0.58	1.91	476.57	2926	1
14.00	-32.70	196.36	104	10	0.57	R	R	2686	1
13.00	-31.64	196.04	148	9	0.56	-20.32	1025.29	10222	1
12.00	-30.89	195.75	148	9	0.55	-4.70	539.89	3978	1
11.00	-30.35	195.64	195	8	0.54	F	F	15001	1
10.00	-30.05	196.08	235	7	0.53	12.71	816.40	6792	1
9.00	-29.64	197.45	235	7	0.52	F	F	15001	1
8.00	-28.52	199.95	279	6	0.51	F	F	15001	1
7.00	-25.46	202.94	335	5	0.50	F	F	15001	1
6.00	-20.60	204.50	336	5	0.49	F	F	15001	1
5.00	-17.81	204.65	468	4	0.48	R	R	14336	1
4.00	-14.44	209.55	541	3	0.47	F	F	15001	1
3.00	-11.58	213.39	557	3	0.46	F	F	15001	1
2.00	2.25	224.20	656	2	0.45	R	R	11272	1
1.90	2.65	225.21	665	2	0.44	F	F	15001	1
1.80	3.39	227.46	672	2	0.43	F	F	15001	1
1.70	5.62	230.37	685	2	0.42	F	F	15001	1
1.60	6.66	232.09	696	2	0.41	R	R	3868	1
1.50	7.45	235.25	839	1	0.40	F	F	15001	1
1.40	9.54	239.15	861	1	0.39	F	F	15001	1
1.30	9.92	242.74	885	1	0.38	R	R	4152	1
1.20	11.31	248.20	914	1	0.37	F	F	15001	1
1.10	11.80	255.35	954	1	0.36	F	F	15001	1
1.00	11.10	263.30	1011	1	0.35	F	F	15001	1
0.90	8.75	274.62	1085	1	0.34	F	F	15001	1
0.80	1.91	290.30	1187	1	0.33	F	F	15001	1
0.70	-12.51	316.82	1385	1	0.32	F	F	15001	1
0.60	-15.22	321.70	1379	1	0.27	R	R	6541	1
0.60	-17.27	325.84	1404	1	0.22	F	F	15001	1
0.67	-18.74	330.17	1428	1	0.17	F	F	15001	1
0.60	-20.57	336.81	1484	1	0.12	R	R	9087	1
0.60	-22.60	346.95	1505	1	0.07	F	F	15001	1
0.64	-23.10	358.31	1582	1	0.02	F	F	15001	1



## MATIENZO, ANTARCTICA

GEOGRAPHIC LATITUDE = 64.97 S

GEOGRAPHIC LONGITUDE = 299.95 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-24.15	-6.03	108	10	3.14	5.98	193.49	1286	1
19.00	-21.44	-6.08	109	10	3.13	7.89	209.31	1335	1
18.00	-18.50	-6.21	110	10	3.12	9.45	230.11	1419	1
17.00	-15.31	-6.44	110	10	3.11	-24.60	331.07	1740	1
16.00	-11.87	-6.70	111	10	3.10	R	R	1737	1
15.00	-8.18	-7.10	112	10	3.09	R	R	4703	1
14.00	-4.27	-7.60	114	10	3.08	-7.36	243.78	1861	1
13.00	-.24	-8.07	163	9	3.07	-3.01	356.16	2918	1
12.00	3.75	-8.40	165	9	3.06	-16.54	263.90	2160	1
11.00	7.42	-8.62	210	8	3.05	-21.56	290.77	2375	1
10.00	10.31	-8.35	260	7	3.04	-7.74	315.14	2638	1
9.00	11.80	-7.32	269	7	3.03	R	R	1546	1
8.00	11.70	-5.10	319	6	3.02	R	R	1411	1
7.00	11.15	-.67	383	5	3.01	R	R	1390	1
6.00	14.24	8.83	387	5	3.00	R	R	1397	1
5.00	25.32	30.35	561	4	2.99	R	R	1479	1
4.90	26.20	33.80	560	4	2.98	-1.81	512.24	4066	1
4.80	26.90	37.77	572	4	2.97	R	R	14998	1
4.70	27.13	41.99	579	4	2.96	-2.60	786.08	8306	1
4.60	26.80	46.47	580	4	2.95	R	R	11189	1
4.50	25.99	51.13	681	3	2.94	F	F	15001	1
4.40	24.49	55.87	691	3	2.93	R	R	8506	1
4.30	22.30	60.54	701	3	2.92	R	R	4307	1
4.20	19.70	65.11	712	3	2.91	R	R	4984	1
4.10	16.80	69.50	723	3	2.90	-.77	613.85	5532	1
4.00	13.72	73.74	733	3	2.89	R	R	2240	1
3.90	10.73	77.93	742	3	2.88	0.79	510.19	5292	1
3.80	8.01	82.19	751	3	2.87	4.71	401.41	3350	1
3.70	5.63	86.70	760	3	2.86	F	F	15001	1
3.60	3.50	92.03	760	3	2.85	R	R	13070	1
3.50	1.40	98.64	774	3	2.84	R	R	1828	1
3.40	-1.04	107.80	790	3	2.83	R	R	1872	1
3.30	-4.15	122.21	821	3	2.82	F	F	15001	1
3.29	-4.47	124.15	1083	1	2.81	R	R	7972	1
3.28	-4.79	126.24	1084	1	2.80	R	R	4256	1
3.27	-5.10	128.40	1096	1	2.79	R	R	4210	1
3.26	-5.38	130.80	1102	1	2.78	F	F	15001	1
3.25	-5.64	133.45	1104	1	2.77	R	R	12671	1
3.24	-5.89	136.27	1117	1	2.76	R	R	10988	1
3.23	-5.98	139.32	1125	1	2.75	R	R	9674	1
3.22	-6.03	142.70	1136	1	2.74	F	F	15001	1
3.21	-5.90	146.40	1145	1	2.73	F	F	15001	1
3.20	-5.73	150.53	1157	1	2.72	F	F	15001	1
3.19	-5.20	155.10	1170	1	2.71	F	F	15001	1
3.18	-4.52	160.42	1186	1	2.70	F	F	15001	1
3.17	-3.37	166.47	1203	1	2.69	R	R	9978	1
3.16	-1.67	173.62	1225	1	2.68	F	F	15001	1
3.15	.72	182.32	1252	1	2.67	R	R	3251	1

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MATILNZU, ANTARCTICA

(CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 64.97 S

GEOGRAPHIC LONGITUDE = 299.95 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
2.60	F	F	15001	1	2.41	F	F	15001	1
2.65	F	F	15001	1	2.37	F	F	15001	1
2.64	K	K	5845	1	2.36	F	F	15001	1
2.65	K	K	11875	1	2.32	R	R	6772	1
2.62	F	F	15001	1	2.27	R	R	5073	1
2.61	K	K	1842	1	2.22	F	F	15001	1
2.60	K	K	1765	1	2.17	R	R	14806	1
2.59	K	K	1742	1	2.12	R	R	3584	1
2.50	K	K	1729	1	2.07	R	R	3114	1
2.57	K	K	1719	1	2.02	R	R	7703	1
2.50	K	K	1715	1	1.97	F	F	15001	1
2.55	K	K	1711	1	1.92	R	R	2205	1
2.54	K	K	1714	1	1.87	R	K	6578	1
2.55	K	K	1719	1	1.82	R	R	2297	1
2.52	K	K	1728	1	1.77	R	R	8247	1
2.51	K	K	1741	1	1.72	R	R	9712	1
2.50	K	K	1754	1	1.67	R	R	2160	1
2.49	K	K	1757	1	1.62	R	R	2264	1
2.40	K	K	1742	1	1.57	R	R	2641	1
2.47	K	K	1799	1	1.52	R	R	1209	1
2.40	K	K	1837	1	1.47	R	R	1240	1
2.42	K	K	14820	1	1.42	R	R	3801	1
					1.58	R	R	1840	1

## MANSON, ANTARCTICA

GEOGRAPHIC LATITUDE = 67.60 S

GEOGRAPHIC LONGITUDE = 12.88 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
200.00	-64.50	67.61	102	10	1.20	-1.18	57.38	889	1
190.00	-64.32	67.64	102	10	1.10	4.02	58.38	924	1
180.00	-64.15	67.84	102	10	1.00	6.30	60.20	964	1
170.00	-63.91	68.11	102	10	0.90	9.05	61.59	1018	1
160.00	-63.67	68.34	102	10	0.80	13.35	63.35	1092	1
150.00	-63.34	68.56	102	10	0.70	16.27	65.61	1189	1
140.00	-63.07	68.85	102	10	0.60	21.50	70.22	1329	1
130.00	-62.70	69.15	102	10	0.50	28.15	78.51	1536	1
120.00	-62.27	69.46	102	10	0.40	35.39	94.89	1871	1
110.00	-61.75	69.80	102	10	0.39	34.36	98.72	1919	1
100.00	-61.15	70.15	102	10	0.38	34.00	100.35	1965	1
90.00	-60.50	70.52	102	10	0.37	34.33	104.27	2019	1
80.00	-59.40	70.90	102	10	0.36	34.29	107.61	2073	1
70.00	-58.10	71.25	102	10	0.35	33.64	110.22	2130	1
60.00	-56.51	71.47	102	10	0.34	33.08	115.17	2195	1
50.00	-54.24	71.44	102	10	0.33	32.19	119.94	2266	1
45.00	-52.70	71.25	102	10	0.32	30.82	123.79	2339	1
40.00	-50.90	70.74	103	10	0.31	28.81	128.18	2418	1
35.00	-48.74	69.97	103	10	0.30	25.96	133.54	2508	1
30.00	-45.94	68.55	103	10	0.29	22.17	139.49	2608	1
25.00	-42.61	66.11	103	10	0.28	17.23	145.99	2722	1
20.00	-38.72	61.94	104	10	0.27	10.57	153.63	2854	1
19.00	-37.95	60.81	104	10	0.26	.60	163.63	3018	1
18.00	-37.22	59.57	104	10	0.25	-12.85	176.97	3234	1
17.00	-36.50	58.20	104	10	0.24	-22.49	206.55	3522	1
16.00	-36.01	56.74	105	10	0.23	10.57	372.66	5917	1
15.00	-35.62	55.16	105	10	0.22	-8.85	526.90	14455	1
14.00	-35.45	53.52	105	10	0.21	R	R	8399	1
13.00	-35.57	51.94	144	9	0.20	F	F	15001	1
12.00	-36.05	50.53	144	9	0.19	R	R	9327	1
11.00	-36.92	49.54	194	8	0.18	F	F	15001	1
10.00	-38.04	49.58	237	7	0.17	F	F	15001	1
9.00	-38.92	50.94	237	7	0.16	F	F	15001	1
8.00	-38.45	53.98	280	6	0.15	F	F	15001	1
7.00	-35.17	57.03	336	5	0.14	F	F	15001	1
6.00	-29.27	56.67	336	5	0.13	F	F	15001	1
5.00	-26.21	52.17	470	4	0.12	F	F	15001	1
4.00	-26.93	54.34	542	3	0.11	F	F	15001	1
3.00	-19.44	52.34	557	3	0.10	F	F	15001	1
2.00	-12.54	55.75	648	2	0.09	F	F	15001	1
1.90	-9.62	55.90	655	2	0.08	F	F	15001	1
1.80	-8.17	54.64	663	2	0.07	F	F	15001	1
1.70	-8.84	54.80	672	2	0.06	F	F	15001	1
1.60	-7.02	56.67	683	2	0.05	F	F	15001	1
1.50	-3.80	56.04	823	1	0.04	F	F	15001	1
1.40	-4.24	56.14	840	1	0.03	F	F	15001	1
1.30	-5.51	57.62	863	1	0.02	F	F	15001	1
					0.01	F	F	15001	1

## MCMURDO, ANTARCTICA

GEOGRAPHIC LATITUDE = 77.85 S

GEOGRAPHIC LONGITUDE = 266.72 E

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
20.00	-85.22	292.14	103	10	1.50	-65.05	276.05	780	1
19.00	-84.48	290.91	103	10	1.40	-63.84	275.46	797	1
18.00	-83.71	289.29	103	10	1.30	-63.65	276.18	816	1
17.00	-82.91	287.29	103	10	1.20	-62.52	275.41	840	1
16.00	-82.08	284.94	103	10	1.10	-61.48	276.30	870	1
15.00	-81.26	282.25	103	10	1.00	-60.64	276.67	908	1
14.00	-80.46	279.22	103	10	0.90	-59.45	276.68	957	1
13.00	-79.72	275.88	145	9	0.80	-58.25	276.16	1021	1
12.00	-79.12	272.40	146	9	0.70	-56.65	276.80	1107	1
11.00	-78.73	268.96	190	8	0.60	-54.95	276.53	1230	1
10.00	-78.62	266.19	231	7	0.50	-52.91	276.76	1409	1
9.00	-78.78	265.31	231	7	0.40	-49.91	276.85	1691	1
8.00	-78.90	268.09	273	6	0.30	-46.06	276.90	2179	1
7.00	-78.09	272.05	328	5	0.20	-40.28	276.76	3188	1
6.00	-75.78	276.02	329	5	0.10	-29.73	275.78	6289	1
5.00	-74.18	271.05	454	4	0.09	-26.19	275.59	6983	1
4.00	-73.67	274.89	523	3	0.08	-26.27	275.25	7853	1
3.00	-71.34	273.26	534	3	0.07	-24.21	274.83	8972	1
2.00	-67.04	275.04	619	2	0.06	-21.86	274.39	10466	1
1.90	-67.01	274.22	625	2	0.05	-19.11	273.72	12562	1
1.80	-66.86	275.51	632	2	0.04	F	F	15001	1
1.70	-65.75	276.06	640	2	0.03	F	F	15001	1
1.60	-65.31	274.75	650	2	0.02	F	F	15001	1

## MEXICO CITY, MEXICO

GEOGRAPHIC LATITUDE = 19.53 N

GEOGRAPHIC LONGITUDE = 260.82 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-20.64	351.95	115	10	9.98	R	R	1308	1
19.00	-22.88	336.55	117	10	9.97	R	R	1311	1
18.00	-24.94	342.07	119	10	9.96	R	R	1315	1
17.00	-26.62	348.80	122	10	9.95	R	R	1323	1
16.00	-27.40	356.79	125	10	9.94	-2.21	153.72	2382	1
15.00	-26.60	6.95	130	10	9.93	-3.23	147.80	2349	1
14.00	-22.60	18.61	130	10	9.92	-5.32	141.99	2320	1
13.00	-13.05	51.52	204	9	9.91	-6.45	136.41	2291	1
12.00	6.10	46.50	225	9	9.90	-6.72	131.21	2256	1
11.90	6.85	48.77	292	8	9.89	-6.30	126.52	2243	1
11.80	11.65	50.41	290	8	9.88	-5.36	122.42	2225	1
11.70	14.65	52.00	301	8	9.87	-4.08	118.97	2209	1
11.60	17.74	55.24	305	8	9.86	-2.59	116.22	2195	1
11.50	20.98	58.19	311	8	9.85	-1.00	114.20	2184	1
11.40	24.30	61.67	316	8	9.84	.65	112.99	2177	1
11.30	27.60	65.84	325	8	9.83	2.36	112.62	2172	1
11.20	30.74	71.10	331	8	9.82	4.15	113.19	2171	1
11.10	33.44	77.62	339	8	9.81	6.06	114.81	2173	1
11.00	35.22	85.81	349	8	9.80	8.15	117.61	2178	1
10.90	35.20	95.85	361	8	9.79	10.43	121.84	2190	1
10.80	32.31	107.51	377	8	9.78	12.82	127.81	2207	1
10.70	24.54	119.92	390	8	9.77	15.03	136.09	2230	1
10.60	9.45	152.70	425	8	9.76	16.25	147.61	2266	1
10.50	-15.12	152.70	566	7	9.75	14.47	163.84	2322	1
10.40	21.09	242.60	765	7	9.74	4.65	186.05	2423	1
10.30	25.93	149.21	785	7	9.73	-18.62	256.80	2744	1
10.20	-1.95	116.80	694	7	9.72	R	R	3143	1
10.14	-4.85	120.70	2155	1	9.71	R	R	3448	1
10.10	-7.94	125.44	2181	1	9.70	R	R	2117	1
10.17	-10.68	131.11	2211	1	9.69	R	R	2076	1
10.10	-12.41	137.45	2245	1	9.68	R	R	2075	1
10.15	-12.55	144.25	2282	1	9.67	R	P	2135	1
10.14	-10.74	151.00	2321	1	9.66	-20.92	240.88	3368	1
10.15	-7.11	157.45	2362	1	9.65	R	R	2552	1
10.12	-2.14	163.16	2405	1	9.64	-16.09	296.58	3775	1
10.11	3.40	168.22	2442	1	9.63	-4.77	204.51	2859	1
10.10	8.90	172.74	2476	1	9.62	-5.15	208.74	2876	1
10.09	13.76	177.04	2511	1	9.61	R	R	1710	1
10.08	R	R	1344	1	9.60	R	R	1705	1
10.07	R	R	1330	1	9.59	R	R	1702	1
10.06	R	R	1322	1	9.58	R	R	1699	1
10.05	R	R	1317	1	9.57	R	R	1696	1
10.04	R	R	1315	1	9.56	R	R	1693	1
10.03	R	R	1310	1	9.55	R	R	1691	1
10.02	R	R	1308	1	9.54	R	R	1690	1
10.01	R	R	1307	1	9.53	R	R	1690	1
10.00	R	R	1307	1	9.52	R	R	1691	1
9.99	R	R	1307	1	9.51	R	R	1694	1

C104

MEXICO CITY, MEXICO (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 19.33 N

GEOGRAPHIC LONGITUDE = 260.82 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
9.50	K	K	1696	1	9.02	.68	170.59	2129	1
9.49	K	K	1705	1	9.01	.37	177.26	2132	1
9.48	K	K	1710	1	9.00	.04	178.24	2136	1
9.47	K	K	1718	1	8.99	-.30	179.55	2142	1
9.46	K	K	1726	1	8.98	-.66	181.20	2149	1
9.45	K	K	1737	1	8.97	-1.03	183.24	2159	1
9.44	K	K	1747	1	8.96	-1.41	185.71	2169	1
9.43	K	K	1760	1	8.95	-1.79	188.68	2183	1
9.42	K	K	1774	1	8.94	-2.15	192.25	2198	1
9.41	K	K	1789	1	8.93	R	R	824	1
9.40	K	K	1806	1	8.92	R	R	819	1
9.39	K	K	1823	1	8.91	R	R	814	1
9.38	K	K	1844	1	8.90	K	R	810	1
9.37	K	K	1867	1	8.89	R	R	807	1
9.36	K	K	1896	1	8.88	R	R	803	1
9.35	K	K	5001	1	8.87	R	R	800	1
9.34	K	K	2701	1	8.86	R	R	798	1
9.33	K	K	2751	1	8.85	R	R	795	1
9.32	K	K	4087	1	8.84	R	R	793	1
9.31	23.87	403.50	5481	1	8.83	R	R	790	1
9.30	-11.84	290.20	3222	1	8.82	R	R	787	1
9.29	K	K	4601	1	8.81	R	R	785	1
9.28	K	K	3680	1	8.80	R	R	783	1
9.27	K	K	2809	1	8.79	K	R	781	1
9.26	K	K	3591	1	8.78	R	R	779	1
9.25	K	K	3521	1	8.77	K	R	777	1
9.24	K	K	4240	1	8.76	R	R	775	1
9.23	K	K	4775	1	8.75	R	R	773	1
9.22	K	K	5724	1	8.74	R	R	771	1
9.21	7.00	400.59	3939	1	8.73	R	R	770	1
9.20	-16.49	303.75	2706	1	8.68	R	R	751	1
9.19	-2.90	251.44	2469	1	8.63	K	R	753	1
9.18	2.15	250.80	2572	1	8.58	R	R	746	1
9.17	3.95	217.79	2515	1	8.53	R	R	740	1
9.16	4.51	208.47	2270	1	8.48	R	R	734	1
9.15	4.54	201.30	2239	1	8.43	R	R	728	1
9.14	4.35	195.80	2214	1	8.38	R	R	723	1
9.13	4.02	191.31	2194	1	8.33	R	R	718	1
9.12	3.60	187.67	2176	1	8.28	R	R	713	1
9.11	3.34	184.70	2165	1	8.23	K	R	709	1
9.10	3.07	182.20	2155	1	8.18	R	R	705	1
9.09	2.70	180.35	2145	1	8.13	R	R	700	1
9.08	2.40	178.81	2139	1	8.08	R	R	697	1
9.07	2.11	177.64	2134	1	8.03	R	K	694	1
9.06	1.85	176.82	2130	1	7.98	R	R	691	1
9.05	1.55	176.32	2126	1	7.93	R	K	687	1
9.04	1.27	176.12	2127	1	7.88	K	R	684	1
9.03	.95	176.20	2127	1	7.83	K	R	682	1

C105

GEOGRAPHIC LATITUDE = 19.33 N

GEOGRAPHIC LONGITUDE = 260.82 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS
7.70	K	K	079	1

P	ASYMPTOTIC LAT	LONG	NSTEP	SS
7.73	R	R	676	1
7.68	R	R	674	1

C108

## MINA AGULIAR, ARGENTINA

GEOGRAPHIC LATITUDE = 23.10 S

GEOGRAPHIC LONGITUDE = 294.30 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	3.40	15.10	115	10	12.49	R	R	1825	1
19.00	6.00	20.30	117	10	12.48	R	R	1999	1
18.00	9.04	26.70	120	10	12.47	R	R	2397	1
17.00	12.30	34.60	123	10	12.46	R	R	1537	1
16.00	15.79	45.10	126	10	12.45	R	R	1464	1
15.00	18.81	60.04	135	10	12.44	R	R	1417	1
14.00	18.90	63.37	148	10	12.43	R	R	1381	1
13.90	18.57	66.47	149	10	12.42	R	R	1351	1
13.80	18.04	69.79	151	10	12.41	R	R	1327	1
13.70	17.30	73.34	153	10	12.40	R	R	1305	1
13.60	16.49	77.17	156	10	12.39	R	R	1287	1
13.50	15.40	101.20	224	9	12.38	R	R	1272	1
13.40	14.00	105.70	226	9	12.37	R	R	1258	1
13.30	12.40	110.60	232	9	12.36	R	R	1245	1
13.20	10.30	116.11	236	9	12.35	R	R	1234	1
13.10	7.90	122.29	244	9	12.34	R	R	1224	1
13.00	4.90	129.49	252	9	12.33	R	R	1216	1
12.90	1.29	138.20	252	9	12.32	R	R	1208	1
12.80	-2.80	149.54	274	9	12.31	R	R	1200	1
12.70	-7.12	165.90	290	9	12.30	R	R	1193	1
12.69	-7.40	168.00	1330	1	12.25	R	R	1155	1
12.60	-7.81	170.29	1341	1	12.20	R	R	1083	1
12.67	-8.10	172.67	1350	1	12.15	R	R	1023	1
12.60	-8.34	175.20	1360	1	12.10	R	R	980	1
12.60	-8.50	177.91	1380	1	12.05	R	R	945	1
12.64	-8.60	180.81	1390	1	12.00	R	R	916	1
12.60	-8.69	183.90	1411	1	11.95	R	R	891	1
12.62	-8.62	187.31	1420	1	11.90	R	R	869	1
12.61	-8.40	190.90	1447	1	11.85	R	R	849	1
12.60	-8.07	195.01	1460	1	11.80	R	R	831	1
12.59	-7.52	199.40	1491	1	11.75	R	R	815	1
12.50	-6.70	204.41	1517	1	11.70	R	R	800	1
12.57	-5.64	210.01	1547	1	11.65	R	R	786	1
12.50	-4.21	216.47	1582	1	11.60	R	R	773	1
12.50	-2.30	224.09	1624	1	11.55	R	R	761	1
12.54	-0.00	233.40	1670	1	11.50	R	R	749	1
12.50	2.44	245.70	1744	1	11.45	R	R	738	1
12.52	4.19	263.40	1840	1	11.40	R	R	727	1
12.51	-0.50	275.24	2030	1	11.35	R	R	717	1
12.50	N	N	2280	1	11.30	R	R	708	1
					11.25	R	R	698	1



## MINNEAPOLIS, UNITED STATES

GEOGRAPHIC LATITUDE = 44.97 N

GEOGRAPHIC LONGITUDE = 266.77 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
15.00	6.37	-02.55	100	10	1.38	R	R	2753	1
14.00	4.45	-02.91	107	10	1.37	-1.78	732.98	5683	1
13.00	2.65	-03.35	152	9	1.36	-17.59	1004.57	10149	1
12.00	1.02	-03.82	152	9	1.35	R	R	9472	1
11.00	-.27	-04.10	199	8	1.34	F	F	15001	1
10.00	-1.10	-04.20	242	7	1.33	R	R	14806	1
9.00	-1.82	-03.42	245	7	1.32	10.61	827.59	9197	1
8.00	-2.82	-01.30	287	6	1.31	F	F	15001	1
7.00	-5.60	-07.45	345	5	1.30	R	R	4048	1
6.00	-12.00	-02.54	351	5	1.29	F	F	15001	1
5.00	-19.30	-04.62	492	4	1.28	F	F	15001	1
4.00	-21.52	-02.41	575	3	1.27	R	R	2566	1
3.00	-28.65	-02.75	604	3	1.26	F	F	15001	1
2.90	-28.27	-01.05	660	2	1.25	F	F	15001	1
2.80	-27.79	-18.95	672	2	1.24	F	F	15001	1
2.70	-27.40	-15.99	670	2	1.23	F	F	15001	1
2.60	-27.15	-11.85	682	2	1.22	F	F	15001	1
2.50	-26.70	-6.40	691	2	1.21	R	R	4252	1
2.40	-25.74	-.57	701	2	1.20	F	F	15001	1
2.30	-25.64	4.70	715	2	1.19	F	F	15001	1
2.20	-24.85	8.69	725	2	1.18	F	F	15001	1
2.10	-17.91	12.57	736	2	1.17	R	R	1915	1
2.00	-14.10	18.87	751	2	1.16	F	F	15001	1
1.90	-6.90	28.65	770	2	1.15	F	F	15001	1
1.80	4.29	39.37	810	2	1.14	F	F	15001	1
1.70	14.71	50.47	847	2	1.13	F	F	15001	1
1.60	26.55	75.89	909	2	1.12	R	R	4777	1
1.59	27.74	81.25	1090	1	1.11	R	R	4226	1
1.50	28.50	87.65	1100	1	1.06	F	F	15001	1
1.57	28.71	95.29	1125	1	1.01	F	F	15001	1
1.50	27.61	104.44	1140	1	1.00	F	F	15001	1
1.55	24.45	115.14	1170	1	0.96	R	R	4447	1
1.54	17.49	127.70	1212	1	0.91	F	F	15001	1
1.55	0.34	143.51	1264	1	0.90	R	R	2444	1
1.52	-12.01	171.35	1354	1	0.85	F	F	15001	1
1.51	-2.80	518.40	3820	1	0.80	R	R	5006	1
1.50	-10.25	217.17	2090	1	0.75	F	F	15001	1
1.49	-2.84	174.62	1805	1	0.70	R	R	6812	1
1.40	1.97	252.25	2120	1	0.65	F	F	15001	1
1.47	8.04	101.20	2200	1	0.60	F	F	15001	1
1.40	1.40	504.31	5424	1	0.55	R	R	7133	1
1.45	2.12	255.75	2674	1	0.50	R	R	2227	1
1.44	R	R	1081	1	0.45	R	R	2402	1
1.45	R	R	1030	1	0.40	R	R	2611	1
1.42	2.71	511.10	5274	1	0.35	R	R	2916	1
1.41	21.22	358.50	6154	1	0.30	R	R	3344	1
1.40	R	R	15001	1	0.25	R	R	3964	1
1.39	10.71	798.10	7424	1	0.20	R	R	4087	1

C108

## MIRNY, ANTIARCTICA

GEOGRAPHIC LATITUDE = 66.55 S

GEOGRAPHIC LONGITUDE = 93.00 E

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
20.00	-49.11	85.94	103	10	1.50	-30.93	82.52	791	1
19.00	-48.90	85.01	103	10	1.40	-28.84	81.93	808	1
18.00	-48.70	84.00	103	10	1.30	-29.04	82.17	827	1
17.00	-48.71	83.01	103	10	1.20	-26.93	81.58	852	1
16.00	-48.77	81.98	103	10	1.10	-25.85	82.43	882	1
15.00	-48.90	81.00	103	10	1.00	-24.96	82.32	920	1
14.00	-49.31	80.14	103	10	0.90	-23.29	82.28	970	1
13.00	-49.80	79.50	140	9	0.80	-20.80	82.02	1036	1
12.00	-50.40	79.40	140	9	0.70	-19.37	82.07	1125	1
11.00	-51.10	79.97	191	8	0.60	-18.35	82.23	1250	1
10.00	-51.44	81.47	232	7	0.50	-12.95	82.26	1434	1
9.00	-50.98	83.70	232	7	0.40	-9.01	82.11	1723	1
8.00	-49.14	85.94	275	6	0.30	-2.52	82.46	2225	1
7.00	-46.01	86.00	330	5	0.20	0.73	83.46	3265	1
6.00	-43.50	83.07	331	5	0.10	27.08	90.19	6499	1
5.00	-44.38	81.20	457	4	0.09	30.53	92.22	7231	1
4.00	-41.37	84.50	527	3	0.08	34.94	95.28	8154	1
3.00	-39.72	82.99	539	3	0.07	39.69	100.01	9347	1
2.00	-33.30	81.71	620	2	0.06	45.57	108.64	10963	1
1.90	-33.70	81.47	632	2	0.05	51.26	128.09	13281	1
1.80	-33.40	82.64	639	2	0.04	F	F	15001	1
1.70	-31.49	82.72	648	2	0.03	F	F	15001	1
1.60	-31.08	81.40	658	2	0.02	F	F	15001	1
					0.01	F	F	15001	1

MUSCOW, U.S.S.R.

GEOGRAPHIC LATITUDE = 55.47 N

GEOGRAPHIC LONGITUDE = 37.32 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	24.02	01.50	100	10	2.51	R	R	1372	1
19.00	22.14	01.92	100	10	2.50	R	R	1352	1
18.00	20.14	02.27	107	10	2.49	R	R	1358	1
17.00	18.04	02.55	107	10	2.48	R	R	1407	1
16.00	15.80	02.82	106	10	2.47	R	R	8461	1
15.00	13.65	03.05	100	10	2.46	F	F	15001	1
14.00	11.42	03.20	109	10	2.45	16.32	489.45	3134	1
13.00	9.30	03.50	150	9	2.44	2.08	591.28	4244	1
12.00	7.40	03.85	150	9	2.43	3.23	884.14	8355	1
11.00	5.80	04.35	204	8	2.42	R	R	5601	1
10.00	4.80	05.25	249	7	2.41	F	F	15001	1
9.00	4.17	06.90	250	7	2.40	17.85	475.73	3417	1
8.00	3.45	09.20	290	6	2.39	8.49	493.22	3208	1
7.00	1.60	06.25	357	5	2.38	.34	637.71	4115	1
6.00	-5.07	105.89	360	5	2.37	11.07	1147.07	9506	1
5.00	-11.80	119.80	524	4	2.36	-16.42	658.07	5300	1
4.00	-9.10	136.17	028	3	2.35	-7.05	682.48	5823	1
3.90	-8.74	138.67	031	3	2.34	R	R	4077	1
3.80	-8.35	141.00	034	3	2.33	R	R	4113	1
3.70	-7.87	145.37	039	3	2.32	R	R	1862	1
3.60	-7.31	149.85	045	3	2.31	R	R	1709	1
3.50	-6.30	155.29	053	3	2.30	R	R	7792	1
3.40	-4.77	161.85	064	3	2.29	F	F	15001	1
3.30	-2.15	169.60	077	3	2.28	F	F	15001	1
3.20	1.70	178.70	095	3	2.27	F	F	15001	1
3.10	6.85	189.70	710	3	2.26	F	F	301	1
3.00	11.91	203.25	822	2	2.25	R	R	9507	1
2.90	14.20	220.70	862	2	2.24	R	R	4656	1
2.80	9.15	243.80	917	2	2.23	R	R	4865	1
2.70	-15.67	264.79	1031	2	2.22	R	R	10560	1
2.69	-20.27	293.65	1261	1	2.21	1.18	914.35	8105	1
2.60	-24.74	306.07	1299	1	2.20	F	F	15001	1
2.67	-26.91	325.21	1350	1	2.19	R	R	2299	1
2.60	-17.33	356.57	1450	1	2.18	R	R	5980	1
2.65	R	R	2270	1	2.17	F	F	15001	1
2.64	-6.10	954.82	7983	1	2.16	F	F	15001	1
2.65	-9.10	522.72	3771	1	2.15	R	R	6158	1
2.62	13.45	450.05	2879	1	2.14	R	R	11244	1
2.61	-4.67	413.28	2010	1	2.13	R	R	5734	1
2.60	-12.60	350.31	1774	1	2.12	F	F	15001	1
2.59	2.84	402.97	2400	1	2.11	R	R	1662	1
2.50	2.70	850.35	7260	1	2.10	R	R	1630	1
2.57	3.24	359.42	2099	1	2.09	R	R	1621	1
2.50	R	R	15001	1	2.08	R	R	1633	1
2.55	-9.44	552.64	3542	1	2.07	R	R	1679	1
2.54	-1.99	859.95	5757	1	2.06	R	R	4280	1
2.50	R	R	2905	1	2.05	F	F	15001	1
2.52	R	R	1460	1	2.04	F	F	15001	1

C110

MOSCOW, U.S.S.R. (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 55.47 N

GEOGRAPHIC LONGITUDE = 37.32 E

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS
2.00	K	K	12384	1	1.79	F	F	15001	1
2.00	F	F	15001	1	1.78	F	F	15001	1
2.00	F	F	15001	1	1.77	R	R	11067	1
2.00	K	K	7010	1	1.76	F	F	15001	1
1.99	F	F	15001	1	1.75	R	R	1970	1
1.98	F	F	15001	1	1.70	R	R	7621	1
1.97	K	K	3537	1	1.65	R	R	4751	1
1.96	F	F	15001	1	1.60	F	F	15001	1
1.95	K	K	2209	1	1.55	F	F	15001	1
1.94	F	F	15001	1	1.50	F	F	15001	1
1.93	K	K	12202	1	1.45	R	R	6549	1
1.92	K	K	2476	1	1.40	F	F	15001	1
1.91	F	F	15001	1	1.35	F	F	15001	1
1.90	K	K	5312	1	1.30	R	R	9123	1
1.89	K	K	4261	1	1.25	R	R	14206	1
1.88	K	K	5371	1	1.20	R	R	4815	1
1.87	K	K	6392	1	1.15	R	R	1363	1
1.86	K	K	8178	1	1.10	R	R	5339	1
1.85	K	K	3396	1	1.05	R	R	1415	1
1.84	K	K	12834	1	1.00	R	R	1341	1
1.83	K	K	1847	1	0.95	R	R	1496	1
1.82	K	K	8010	1	0.90	R	R	1388	1
1.81	K	K	2593	1	0.85	R	R	1492	1
1.80	K	K	7208	1	0.80	R	R	1474	1
					0.75	R	R	1570	1

## MT. NORIKURA, JAPAN

GEOGRAPHIC LATITUDE = 36.12 N

GEOGRAPHIC LONGITUDE = 137.56 E

	ASYMPTOTIC		NSTEP	SS		ASYMPTOTIC		NSTEP	SS
P	LAT	LONG			P	LAT	LONG		
0.00	-14.71	215.13	118	10	12.05	-8.13	480.92	2876	1
9.00	-18.33	220.01	120	10	12.04	34.88	436.61	2531	1
8.00	-21.99	226.27	123	10	12.03	19.89	403.51	1571	1
7.00	-25.33	234.56	127	10	12.02	R	R	1391	1
6.00	-27.51	235.83	132	10	12.01	R	R	1345	1
5.00	-26.74	261.19	139	10	12.00	R	R	1318	1
4.00	-19.38	261.65	151	10	11.99	R	R	1297	1
3.90	-18.06	264.06	153	10	11.98	R	R	1276	1
3.80	-16.62	266.53	154	10	11.97	R	R	1264	1
3.70	-15.03	269.11	156	10	11.96	R	R	1251	1
3.60	-13.29	291.83	158	10	11.95	R	R	1239	1
3.50	-11.39	294.67	226	9	11.94	R	R	1228	1
3.40	-9.34	297.66	229	9	11.93	R	R	1219	1
3.30	-7.13	300.93	233	9	11.92	R	R	1209	1
3.20	-4.75	304.44	237	9	11.91	R	R	1202	1
3.10	-2.23	308.31	242	9	11.90	R	R	1194	1
3.00	.40	312.63	247	9	11.89	R	R	1187	1
2.90	3.10	317.60	253	9	11.88	R	R	1181	1
2.80	5.76	323.40	260	9	11.87	R	R	1175	1
2.70	8.17	330.38	268	9	11.86	R	R	1169	1
2.60	9.97	339.04	276	9	11.85	R	R	1164	1
2.50	10.45	350.12	291	9	11.84	R	R	1160	1
2.40	8.28	364.89	309	9	11.83	R	R	1155	1
2.30	1.19	366.49	337	9	11.82	R	R	1151	1
2.29	.12	369.34	1533	1	11.81	R	R	1148	1
2.28	-.99	392.41	1551	1	11.80	R	R	1144	1
2.27	-2.13	395.73	1570	1	11.79	R	R	1141	1
2.26	-3.34	399.34	1591	1	11.78	R	R	1139	1
2.25	-4.53	403.32	1614	1	11.77	R	R	1137	1
2.24	-5.66	407.74	1640	1	11.76	R	R	1135	1
2.23	-6.66	412.70	1669	1	11.75	R	R	1134	1
2.22	-7.41	418.36	1703	1	11.74	R	R	1132	1
2.21	-7.70	424.86	1741	1	11.73	R	R	1131	1
2.20	-7.22	432.49	1787	1	11.72	R	R	1131	1
2.19	-5.45	441.60	1842	1	11.71	R	R	1130	1
2.18	-1.52	452.83	1912	1	11.70	R	R	1130	1
2.17	5.94	467.77	2007	1	11.69	R	R	1130	1
2.16	18.04	492.85	2186	1	11.68	R	R	1131	1
2.15	-4.45	572.85	2613	1	11.67	R	R	1133	1
2.14	H	H	2251	1	11.66	R	R	1134	1
2.13	H	H	1944	1	11.65	R	R	1136	1
2.12	H	H	1793	1	11.64	R	R	1138	1
2.11	H	H	1747	1	11.63	R	R	1140	1
2.10	H	H	1745	1	11.62	R	R	1143	1
2.09	H	H	1804	1	11.61	R	R	1147	1
2.08	H	H	1947	1	11.60	R	R	1151	1
2.07	15.09	399.76	2956	1	11.59	R	R	1155	1
2.06	-13.57	461.10	2937	1	11.58	R	R	1159	1

MI. NORIKURA, JAPAN (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 36.12 N

GEOGRAPHIC LONGITUDE = 137.56 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
11.57	K	K	1165	1	11.09	R	R	1647	1
11.56	K	K	1170	1	11.08	R	R	1649	1
11.55	K	K	1175	1	11.07	R	R	1654	1
11.54	K	K	1180	1	11.06	R	R	1660	1
11.53	K	K	1190	1	11.05	R	R	1665	1
11.52	K	K	1195	1	11.04	R	R	1680	1
11.51	K	K	1205	1	11.03	R	R	1693	1
11.50	K	K	1215	1	11.02	R	R	1708	1
11.49	K	K	1225	1	11.01	R	R	1726	1
11.48	K	K	1235	1	11.00	R	R	1747	1
11.47	K	K	1245	1	10.99	R	R	1771	1
11.46	K	K	1255	1	10.98	R	R	1799	1
11.45	K	K	1265	1	10.97	R	R	1831	1
11.44	K	K	1277	1	10.96	R	R	1870	1
11.43	K	K	1289	1	10.95	R	R	1919	1
11.42	K	K	1265	1	10.94	R	R	1984	1
11.41	K	K	1255	1	10.93	R	R	3241	1
11.40	K	K	1255	1	10.92	R	R	2464	1
11.39	K	K	1259	1	10.91	R	R	2353	1
11.38	K	K	1265	1	10.90	R	R	2927	1
11.37	K	K	1270	1	10.89	16.38	486.14	2544	1
11.36	K	K	1279	1	10.88	27.69	452.29	2351	1
11.35	K	K	1290	1	10.87	24.87	432.56	2246	1
11.34	K	K	1306	1	10.86	19.64	420.35	2175	1
11.33	-4.27	307.01	2300	1	10.85	14.50	411.94	2121	1
11.32	-7.75	308.95	2307	1	10.84	9.98	405.60	2080	1
11.31	3.75	373.40	2325	1	10.83	6.14	400.47	2045	1
11.30	9.07	381.20	2360	1	10.82	2.91	396.14	2016	1
11.29	14.37	394.65	2414	1	10.81	.21	392.37	1991	1
11.28	15.89	418.80	2520	1	10.80	-2.02	389.03	1970	1
11.27	-9.97	479.72	2637	1	10.79	-3.87	386.03	1952	1
11.26	K	K	2481	1	10.78	-5.40	383.31	1935	1
11.25	K	K	2260	1	10.77	-6.66	380.64	1920	1
11.24	K	K	2160	1	10.76	-7.67	378.59	1906	1
11.23	K	K	2140	1	10.75	-8.49	376.55	1896	1
11.22	K	K	2232	1	10.74	-9.14	374.70	1886	1
11.21	29.65	452.15	3460	1	10.73	-9.64	373.02	1876	1
11.20	K	K	2720	1	10.72	-10.02	371.51	1868	1
11.19	16.75	470.05	3104	1	10.71	-10.30	370.16	1861	1
11.18	K	K	1743	1	10.70	-10.48	368.96	1855	1
11.17	K	K	1705	1	10.69	-10.59	367.90	1849	1
11.16	K	K	1685	1	10.68	-10.63	366.99	1847	1
11.15	K	K	1670	1	10.67	-10.62	366.22	1840	1
11.14	K	K	1661	1	10.66	-10.56	365.57	1836	1
11.13	K	K	1655	1	10.65	-10.45	365.06	1833	1
11.12	K	K	1650	1	10.64	-10.32	364.68	1832	1
11.11	K	K	1647	1	10.63	-10.15	364.42	1830	1
11.10	K	K	1645	1	10.62	-9.97	364.28	1829	1

MT. HORINUKA, JAPAN (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 36.12 N

GEOGRAPHIC LONGITUDE = 137.56 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
10.61	-9.75	364.27	1620	1	10.15	R	R	1601	1
10.60	-9.54	364.39	1620	1	10.14	R	R	1635	1
10.59	-9.31	364.63	1629	1	10.13	R	R	1617	1
10.58	-9.06	364.99	1630	1	10.12	R	R	1600	1
10.57	-8.81	365.40	1632	1	10.11	R	R	1585	1
10.56	-8.56	366.10	1635	1	10.10	R	R	1571	1
10.55	-8.31	366.80	1636	1	10.09	R	R	1560	1
10.54	-8.07	367.75	1641	1	10.08	R	R	1548	1
10.53	-7.80	368.79	1640	1	10.07	R	R	1538	1
10.52	-7.55	369.90	1651	1	10.06	R	R	1529	1
10.51	-7.30	371.35	1657	1	10.05	R	R	1520	1
10.50	-7.06	372.80	1663	1	10.04	R	R	1512	1
10.49	-6.82	374.50	1671	1	10.03	R	R	1505	1
10.48	-6.57	376.47	1680	1	10.02	R	R	1498	1
10.47	-6.33	378.60	1689	1	10.01	R	R	1491	1
10.46	-6.08	380.97	1900	1	10.00	R	R	1485	1
10.45	-5.80	383.62	1912	1	9.99	R	R	1477	1
10.44	-5.50	386.50	1927	1	9.98	R	R	1472	1
10.43	-5.14	389.89	1943	1	9.97	R	R	1467	1
10.42	-4.69	393.63	1961	1	9.96	R	R	1462	1
10.41	-4.11	397.80	1982	1	9.95	R	R	1458	1
10.40	-3.35	402.71	2007	1	9.94	R	R	1453	1
10.39	-2.22	408.35	2037	1	9.93	R	R	716	1
10.38	-1.65	414.90	2075	1	9.92	R	R	711	1
10.37	1.71	422.99	2118	1	9.91	R	R	708	1
10.36	5.20	433.10	2177	1	9.90	R	R	706	1
10.35	10.68	447.19	2261	1	9.85	R	R	697	1
10.34	16.19	470.64	2396	1	9.80	R	R	689	1
10.33	6.21	534.29	2741	1	9.75	R	R	683	1
10.32	N	N	2960	1	9.70	R	R	677	1
10.31	10.70	475.74	3181	1	9.65	R	R	673	1
10.30	N	N	2110	1	9.60	R	R	668	1
10.29	N	N	2050	1	9.55	R	R	664	1
10.28	N	N	2007	1	9.50	R	R	660	1
10.27	N	N	1980	1	9.45	R	R	656	1
10.26	N	N	1972	1	9.40	R	R	652	1
10.25	N	N	2080	1	9.35	R	R	649	1
10.24	N	N	2222	1	9.30	R	R	646	1
10.23	N	N	2307	1	9.25	R	R	643	1
10.22	N	N	2640	1	9.20	R	R	640	1
10.21	N	N	2590	1	9.15	R	R	638	1
10.20	N	N	2705	1	9.10	R	R	635	1
10.19	-8.45	536.04	3315	1	9.05	R	R	633	1
10.18	17.77	447.05	2854	1	9.00	R	R	631	1
10.17	15.60	455.42	2790	1	8.95	R	R	629	1
10.16	18.38	447.20	2854	1	8.90	R	R	627	1

## MT. WASHINGTON, UNITED STATES

GEOGRAPHIC LATITUDE = 44.30 N

GEOGRAPHIC LONGITUDE = 288.70 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
200.00	44.52	-04.99	102	10	8.00	.88	-30.18	700	1
175.00	44.74	-04.08	102	10	7.77	.71	-29.56	344	5
150.00	44.39	-02.88	102	10	7.73	.67	-29.43	201	8
140.00	44.34	-02.28	102	10	7.65	.58	-29.18	345	5
130.00	44.26	-01.60	102	10	7.50	.39	-28.67	244	7
125.00	44.22	-01.22	102	10	7.00	-.69	-26.56	702	1
120.00	44.17	-00.80	102	10	6.66	-1.92	-24.80	347	5
110.00	44.04	-09.87	102	10	6.54	-2.47	-24.14	347	5
100.00	43.85	-08.75	102	10	6.50	-2.67	-23.91	246	7
99.99	43.85	-08.75	323	5	6.25	-4.07	-22.45	348	5
90.00	43.59	-07.42	102	10	6.00	-5.73	-20.95	711	1
80.00	43.20	-05.76	102	10	5.74	-7.70	-19.40	250	7
75.00	42.94	-04.81	102	10	5.55	-9.22	-18.35	354	5
70.00	42.62	-03.75	102	10	5.50	-9.62	-18.08	296	6
65.00	41.22	-02.51	323	5	5.43	-10.19	-17.73	354	5
60.00	41.70	-01.13	102	10	5.25	-11.58	-16.85	724	1
55.00	41.03	-09.56	324	5	5.00	-13.26	-15.81	728	1
50.00	40.16	-07.77	102	10	4.75	-14.48	-14.96	301	6
45.00	38.99	-05.72	103	10	4.50	-15.10	-14.15	303	6
40.00	37.39	-03.38	103	10	4.44	-15.17	-13.94	363	5
35.00	35.16	-00.74	103	10	4.37	-15.21	-13.66	303	6
30.00	31.95	-07.82	103	10	4.32	-15.23	-13.44	363	5
25.00	27.24	-04.78	104	10	4.25	-15.22	-13.06	364	5
20.19	20.58	-32.15	333	5	4.00	-15.27	-11.15	743	1
20.00	20.25	-32.06	675	1	3.95	-15.33	-10.61	744	1
19.00	18.51	-31.54	677	1	3.90	-15.43	-10.02	744	1
18.00	16.65	-31.28	679	1	3.85	-15.56	-9.35	745	1
17.00	14.68	-31.01	682	1	3.80	-15.75	-8.63	746	1
16.00	12.61	-30.83	684	1	3.75	-15.98	-7.83	748	1
15.15	10.80	-30.76	338	5	3.70	-16.26	-6.98	749	1
15.00	10.47	-30.78	686	1	3.66	-16.53	-6.24	369	5
14.00	8.32	-30.86	689	1	3.65	-16.60	-6.06	750	1
13.12	6.48	-31.04	340	5	3.60	-16.99	-5.10	751	1
13.00	6.24	-31.07	691	1	3.55	-17.43	-4.07	753	1
12.11	4.54	-31.37	341	5	3.50	-17.91	-2.94	755	1
12.00	4.35	-31.40	694	1	3.48	-18.11	-2.55	756	1
11.11	2.98	-31.75	342	5	3.46	-18.32	-2.10	757	1
11.04	2.93	-31.76	342	5	3.44	-18.53	-1.66	758	1
11.00	2.80	-31.79	696	1	3.42	-18.74	-1.21	759	1
10.96	2.78	-31.80	342	5	3.40	-18.95	-.75	760	1
10.50	2.21	-31.94	154	9	3.38	-19.16	-.30	761	1
10.00	1.75	-32.03	698	1	3.36	-19.37	.17	762	1
9.99	1.75	-32.03	343	5	3.34	-19.58	.63	763	1
9.87	1.66	-32.04	343	5	3.33	-19.68	.86	376	5
9.45	1.42	-31.97	344	5	3.32	-19.79	1.08	764	1
9.00	1.25	-31.75	699	1	3.30	-19.98	1.54	765	1
8.88	1.22	-31.63	344	5	3.28	-20.18	1.98	766	1
8.76	1.18	-31.51	344	5	3.26	-20.37	2.43	767	1



T. WASHINGTON, UNITED STATES

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GEOGRAPHIC LATITUDE = 44.30 N

GEOGRAPHIC LONGITUDE = 248.70 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
3.25	-20.40	2.64	767	1	1.76	3.06	63.84	941	1
3.24	-20.54	2.87	768	1	1.75	3.98	64.75	944	1
3.22	-20.72	3.30	769	1	1.74	4.88	65.65	948	1
3.21	-20.79	3.52	379	5	1.72	6.61	67.39	955	1
3.20	-20.87	3.73	770	1	1.70	9.22	69.09	962	1
3.18	-21.02	4.14	771	1	1.68	9.71	70.81	970	1
3.16	-21.15	4.55	772	1	1.66	11.13	72.66	977	1
3.15	-21.21	4.74	772	1	1.65	11.84	73.65	980	1
3.14	-21.27	4.94	773	1	1.64	12.56	74.76	984	1
3.12	-21.37	5.32	774	1	1.62	14.10	77.29	993	1
3.10	-21.46	5.70	775	1	1.60	15.87	80.43	1000	1
3.08	-21.53	6.07	777	1	1.58	17.98	84.43	1015	1
3.06	-21.59	6.41	778	1	1.56	20.51	89.56	1030	1
3.04	-21.63	6.75	779	1	1.55	21.91	92.69	1039	1
3.02	-21.66	7.07	780	1	1.54	23.37	96.24	1048	1
3.00	-21.66	7.38	781	1	1.52	26.20	105.08	1072	1
2.95	-21.62	8.11	783	1	1.50	28.04	116.80	1102	1
2.90	-21.49	8.82	786	1	1.49	28.07	123.89	1120	1
2.85	-21.29	9.51	798	1	1.48	27.06	131.81	1140	1
2.80	-21.04	10.27	791	1	1.47	24.64	140.48	1163	1
2.75	-20.77	11.14	793	1	1.46	20.35	149.75	1189	1
2.70	-20.52	12.18	795	1	1.45	13.72	159.74	1221	1
2.65	-20.30	13.49	798	1	1.44	4.34	171.12	1260	1
2.60	-20.15	15.07	800	1	1.43	-8.47	186.75	1315	1
2.55	-20.04	17.02	805	1	1.42	-20.67	218.85	1406	1
2.50	-19.97	19.25	808	1	1.41	18.84	234.46	1493	1
2.45	-19.87	21.80	814	1	1.40	-19.64	237.80	2860	1
2.40	-19.66	24.54	820	1	1.39	-14.82	294.66	2371	1
2.35	-18.64	29.96	832	1	1.38	.53	201.89	1770	1
2.30	-17.76	32.35	838	1	1.37	-6.38	287.49	2409	1
2.25	-16.68	34.37	844	1	1.36	.07	211.85	2016	1
2.20	-15.50	36.86	852	1	1.35	3.75	275.04	2375	1
2.15	-14.31	37.62	856	1	1.34	7.18	240.20	2563	1
2.10	-13.12	39.39	866	1	1.33	1.59	252.83	3201	1
2.05	-11.81	41.80	872	1	1.32	R	R	1653	1
2.00	-10.21	45.14	882	1	1.31	-13.96	284.84	3061	1
1.95	-8.00	49.80	882	1	1.30	-1.31	319.77	3291	1
1.90	-6.86	51.48	899	1	1.29	2.81	247.61	2363	1
1.85	-5.36	53.84	904	1	1.28	6.35	219.73	2120	1
1.80	-4.84	54.61	906	1	1.27	-8.84	386.59	3132	1
1.75	-4.04	55.87	911	1	1.26	4.88	215.18	1926	1
1.70	-3.28	56.73	915	1	1.25	.27	397.70	3518	1
1.65	-2.43	57.81	919	1	1.24	2.18	555.79	5427	1
1.60	-1.58	58.85	922	1	1.23	R	R	9284	1
1.55	-1.06	59.84	926	1	1.22	R	R	15000	1
1.50	.26	60.92	930	1	1.21	R	R	2106	1
1.45	1.18	61.90	933	1	1.20	R	R	2312	1
1.40	2.12	62.89	937	1	1.19	-8.95	1037.24	11317	1

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GEUGRAPHIC LONGITUDE = 288.70 E

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
1.15	K	K	45312	1	0.98	F	F	15001	1
1.17	K	K	51248	1	0.97	R	R	2206	1
1.16	F	F	15000	1	0.92	F	F	15001	1
1.15	K	K	50692	1	0.87	R	R	5261	1
1.14	K	K	52230	1	0.82	R	R	2590	1
1.13	K	K	36646	1	0.77	F	F	15001	1
1.12	K	K	71440	1	0.72	F	F	15001	1
1.11	F	F	15000	1	0.67	F	F	15001	1
1.10	K	K	83284	1	0.62	F	F	15001	1
1.09	K	K	4440	1	0.57	R	R	9773	1
1.08	K	K	14472	1	0.52	R	R	2446	1
1.07	K	K	12468	1	0.47	R	R	2675	1
1.05	K	K	24336	1	0.42	R	R	2646	1
1.04	K	K	13786	1	0.37	R	R	2896	1
1.03	K	K	119692	1	0.32	R	R	3239	1
1.02	K	K	4046	1	0.27	R	R	3775	1
1.01	K	K	89612	1	0.22	R	R	4553	1
1.00	F	F	128000	1	0.17	R	R	5827	1
0.99	R	R	10330	1	0.12	R	R	8183	1
					0.07	R	R	13942	1

C117

## MT. WELLINGTON, AUSTRALIA

GEOGRAPHIC LATITUDE = 42.92 S

GEOGRAPHIC LONGITUDE = 147.24 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-16.44	189.15	681	1	2.33	-23.95	318.04	990	1
19.00	-14.64	189.60	685	1	2.32	-24.33	319.62	994	1
18.00	-12.70	189.99	685	1	2.31	-24.68	321.26	998	1
17.00	-10.84	190.33	687	1	2.30	-24.98	322.98	1003	1
16.00	-8.12	190.59	689	1	2.29	-25.24	324.75	1007	1
15.00	-6.85	190.80	691	1	2.28	-25.45	326.61	1012	1
14.00	-4.98	190.95	108	10	2.27	-25.62	328.56	1016	1
13.00	-3.31	191.08	153	9	2.26	-25.72	330.65	1022	1
12.00	-1.97	191.25	154	9	2.25	-25.77	332.85	1027	1
11.00	-1.09	191.63	201	8	2.24	-25.74	335.20	1033	1
10.00	-.67	192.54	245	7	2.23	-25.63	337.72	1039	1
9.00	-.45	194.52	246	7	2.22	-25.41	340.45	1046	1
8.00	.51	198.31	291	6	2.21	-25.06	343.40	1053	1
7.00	3.94	204.40	352	5	2.20	-24.53	346.63	1062	1
6.00	10.38	212.12	360	5	2.19	-23.79	350.14	1071	1
5.00	14.31	219.10	507	4	2.18	-22.75	354.02	1082	1
4.00	13.87	231.95	594	3	2.17	-21.33	358.27	1094	1
3.00	14.16	234.63	597	3	2.16	-19.41	362.96	1107	1
3.80	14.44	237.61	601	3	2.15	-16.77	368.21	1124	1
3.70	14.59	240.81	606	3	2.14	-13.18	374.10	1144	1
3.60	14.50	244.12	611	3	2.13	-8.24	380.86	1168	1
3.50	14.03	247.38	617	3	2.12	-1.36	389.01	1200	1
3.40	13.17	250.43	623	3	2.11	8.37	399.95	1246	1
3.30	11.94	253.14	629	3	2.10	21.63	416.92	1317	1
3.20	10.48	255.54	634	3	2.09	21.67	474.74	1491	1
3.10	8.91	257.87	639	3	2.08	R	R	1808	1
3.00	7.31	260.57	708	2	2.07	3.31	572.30	3260	1
2.90	5.60	264.20	714	2	2.06	10.93	469.91	1883	1
2.80	3.42	269.37	723	2	2.05	-5.26	577.86	2835	1
2.70	.09	276.40	738	2	2.04	2.29	488.17	2323	1
2.60	-5.23	285.31	756	2	2.03	R	R	11504	1
2.50	-12.64	295.80	926	1	2.02	9.55	760.05	5538	1
2.49	-13.44	296.96	930	1	2.01	R	R	1434	1
2.48	-14.24	298.10	933	1	2.00	R	R	1442	1
2.47	-15.04	299.26	936	1	1.99	10.49	1164.43	9055	1
2.46	-15.82	300.46	940	1	1.98	9.10	911.71	8325	1
2.45	-16.60	301.68	944	1	1.97	-3.72	742.40	4203	1
2.44	-17.36	302.90	946	1	1.96	11.36	754.81	4940	1
2.43	-18.10	304.14	951	1	1.95	3.44	907.64	6428	1
2.42	-18.83	305.42	956	1	1.94	-8.43	609.69	4370	1
2.41	-19.52	306.71	959	1	1.93	-2.11	520.73	3253	1
2.40	-20.19	308.04	963	1	1.92	-13.96	1046.06	7873	1
2.39	-20.83	309.38	967	1	1.91	10.37	826.26	4737	1
2.38	-21.44	310.73	970	1	1.90	9.69	454.59	1925	1
2.37	-22.02	312.12	974	1	1.89	7.38	749.97	5011	1
2.36	-22.56	313.55	978	1	1.88	R	R	2194	1
2.35	-23.06	315.00	982	1	1.87	4.89	1091.24	8832	1
2.34	-23.52	316.50	986	1	1.86	F	F	15001	1

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MT. WELLINGTON, AUSTRALIA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 42.92 S

GEOGRAPHIC LONGITUDE = 147.24 E

P	ASYMPTOTIC ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
1.85	-3.00	750.32	4802	1	1.61	F	F	15001	1
1.84	F	F	15001	1	1.60	R	R	2254	1
1.83	F	F	15001	1	1.59	R	R	2918	1
1.82	F	F	15001	1	1.58	F	F	15001	1
1.81	8.21	1184.54	10033	1	1.57	R	R	4158	1
1.80	R	R	1742	1	1.56	F	F	15001	1
1.79	R	R	1812	1	1.55	F	F	15001	1
1.78	F	F	15001	1	1.50	F	F	15001	1
1.77	F	F	15001	1	1.45	F	F	15001	1
1.76	-19.10	1370.44	11008	1	1.40	F	F	15001	1
1.75	F	F	15001	1	1.35	R	R	6787	1
1.74	F	F	15001	1	1.30	R	R	14140	1
1.73	R	R	2422	1	1.25	F	F	15001	1
1.72	F	F	15001	1	1.20	F	F	15001	1
1.71	F	F	15001	1	1.15	F	F	15001	1
1.70	F	F	15001	1	1.10	F	F	15001	1
1.69	F	F	15001	1	1.05	F	F	15001	1
1.68	F	F	15001	1	1.00	R	R	2683	1
1.67	R	R	12278	1	0.95	R	R	7480	1
1.66	F	F	15001	1	0.90	R	R	3215	1
1.65	R	R	1693	1	0.85	R	R	3944	1
1.64	R	R	10446	1	0.80	R	R	3416	1
1.63	F	F	15001	1	0.75	R	R	1683	1
1.62	F	F	15001	1	0.70	R	R	1624	1
					0.65	R	R	1760	1

## MUNICH, GERMANY

GEOGRAPHIC LATITUDE = 48.20 N

GEOGRAPHIC LONGITUDE = 11.60 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	14.74	04.84	108	10	4.22	R	R	1341	1
19.00	12.35	05.87	109	10	4.21	R	R	1325	1
18.00	4.74	06.95	109	10	4.20	R	R	1317	1
17.10	0.90	08.10	110	10	4.19	R	R	1311	1
16.00	4.02	09.35	111	10	4.18	R	R	1308	1
15.00	.90	10.75	112	10	4.17	R	R	1307	1
14.00	-2.15	12.35	114	10	4.16	R	R	1309	1
13.00	-5.14	14.25	165	9	4.15	R	R	1311	1
12.00	-7.85	16.45	164	9	4.14	R	R	1315	1
11.00	-9.89	19.14	210	8	4.13	R	R	1322	1
10.00	-10.97	02.35	260	7	4.12	R	R	1337	1
9.00	-10.82	06.29	269	7	4.11	R	R	1384	1
8.00	-9.60	11.60	320	6	4.10	R	R	1427	1
7.00	-8.55	16.75	389	5	4.09	13.52	406.34	3765	1
6.00	-7.75	14.50	405	5	4.08	R	R	2917	1
5.00	7.64	105.64	630	4	4.07	-5.40	617.04	5220	1
4.90	11.72	174.55	655	4	4.06	R	R	4245	1
4.80	15.67	185.90	675	4	4.05	-7.67	607.02	6822	1
4.70	17.90	201.41	704	4	4.04	R	R	6486	1
4.60	14.00	223.15	740	4	4.03	R	R	5558	1
4.50	-9.04	257.41	955	3	4.02	10.85	461.30	3540	1
4.49	-13.55	203.25	1270	1	4.01	12.50	447.73	4141	1
4.40	-18.55	210.55	1297	1	4.00	-4.38	389.45	2987	1
4.47	-23.75	200.30	1330	1	3.99	14.73	451.78	3981	1
4.40	-28.00	294.87	1574	1	3.98	-15.80	951.75	6920	1
4.40	-27.65	317.65	1440	1	3.97	9.39	802.74	7131	1
4.44	-6.95	354.70	1570	1	3.96	11.73	424.24	3068	1
4.45	5.80	547.12	3644	1	3.95	R	R	6104	1
4.42	K	K	1734	1	3.94	10.59	501.00	4560	1
4.41	K	K	1790	1	3.93	R	R	3909	1
4.40	22.30	424.34	3120	1	3.92	R	R	14181	1
4.39	-2.92	303.65	2802	1	3.91	10.82	460.39	4020	1
4.30	-11.15	302.14	2134	1	3.90	R	R	3976	1
4.37	-4.12	294.55	1685	1	3.89	R	R	5461	1
4.30	-14.00	316.72	1939	1	3.88	R	R	4495	1
4.35	12.75	555.22	4155	1	3.87	R	R	6993	1
4.34	23.60	742.20	6594	1	3.86	5.17	523.66	4702	1
4.35	K	K	2524	1	3.85	R	R	5466	1
4.32	-4.45	320.60	2194	1	3.84	R	R	6156	1
4.31	-7.50	302.90	2652	1	3.83	F	F	15001	1
4.30	K	K	2570	1	3.82	R	K	10056	1
4.29	21.15	426.22	3724	1	3.81	R	R	8496	1
4.20	22.25	428.84	3012	1	3.80	21.40	802.38	8120	1
4.27	-0.42	902.12	9764	1	3.79	2.67	527.80	4994	1
4.20	K	K	8753	1	3.78	R	R	2149	1
4.25	K	K	1454	1	3.77	R	R	2282	1
4.24	K	K	1405	1	3.76	R	R	13340	1
4.25	K	K	1360	1	3.75	R	R	8983	1

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MUNICH, GERMANY (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 48.20 N

GEOGRAPHIC LONGITUDE = 11.60 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
3.74	K	K	8060	1	3.44	K	R	10925	1
3.73	K	K	8082	1	3.43	R	R	4349	1
3.72	F	F	15001	1	3.42	R	R	14575	1
3.71	K	K	7180	1	3.41	F	F	15001	1
3.70	K	K	5580	1	3.40	R	R	12499	1
3.69	K	K	3763	1	3.39	R	R	4338	1
3.68	2.21	900.23	12989	1	3.38	R	R	2504	1
3.67	1.09	608.04	7271	1	3.33	R	K	1685	1
3.66	K	K	0052	1	3.28	F	F	15001	1
3.65	K	K	14139	1	3.23	R	R	3993	1
3.64	K	K	1799	1	3.18	F	F	15001	1
3.63	K	K	1739	1	3.13	K	R	5325	1
3.62	K	K	1719	1	3.08	R	R	1812	1
3.61	K	K	1722	1	3.03	R	R	13467	1
3.60	K	K	1745	1	3.00	R	R	4485	3
3.59	K	K	1034	1	2.98	R	R	4109	1
3.58	K	K	8734	1	2.93	K	R	1895	1
3.57	K	K	3580	1	2.88	K	R	7873	1
3.56	K	K	14014	1	2.83	R	R	2880	1
3.55	K	K	10373	1	2.78	F	F	15001	1
3.54	K	K	3260	1	2.73	R	R	5072	1
3.53	F	F	15001	1	2.68	F	F	15001	1
3.52	K	K	10239	1	2.63	F	F	15001	1
3.51	F	F	15001	1	2.58	F	F	15001	1
3.50	F	F	15001	1	2.53	R	K	1906	1
3.49	K	K	0321	1	2.48	R	R	1862	1
3.48	K	K	2330	1	2.43	R	R	1886	1
3.47	K	K	2351	1	2.38	R	R	9929	1
3.46	K	K	5029	1	2.33	R	R	7368	1
3.45	F	F	15001	1	1.49	R	R	980	1

C121

## MURCHISON RAY, NORWAY

GEOGRAPHIC LATITUDE = 80.05 N

GEOGRAPHIC LONGITUDE = 18.25 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	70.17	64.16	102	10	1.50	46.85	71.96	786	1
19.00	69.68	63.73	103	10	1.40	45.48	73.23	803	1
18.00	69.18	63.19	103	10	1.30	44.61	72.61	822	1
17.00	68.69	62.55	103	10	1.20	43.13	73.87	847	1
16.00	68.22	61.84	103	10	1.10	42.37	74.00	877	1
15.00	67.80	61.05	103	10	1.00	40.72	74.13	916	1
14.00	67.45	60.26	103	10	0.90	39.00	74.73	966	1
13.00	67.20	59.54	145	9	0.80	37.17	75.77	1031	1
12.00	67.06	59.06	145	9	0.70	34.46	76.26	1120	1
11.00	67.03	59.09	190	8	0.60	31.84	77.19	1245	1
10.00	67.03	59.95	231	7	0.50	28.51	78.42	1428	1
9.00	66.83	62.02	231	7	0.40	23.85	80.40	1717	1
8.00	65.95	65.06	273	6	0.30	17.23	82.73	2219	1
7.00	63.95	67.49	326	5	0.20	7.02	87.56	3262	1
6.00	61.33	68.96	330	5	0.10	-14.18	104.38	6534	1
5.00	60.27	64.87	454	4	0.09	-17.80	109.54	7286	1
4.00	58.75	68.93	525	3	0.08	-21.57	117.19	8240	1
3.00	55.76	68.35	536	3	0.07	-24.90	130.14	9505	1
2.00	50.00	71.49	623	2	0.06	-22.01	159.11	11348	1
1.90	49.37	70.77	629	2	0.05	F	F	15001	1
1.80	49.37	71.02	636	2	0.04	F	F	15001	1
1.70	48.49	72.11	644	2	0.03	F	F	15001	1
1.60	47.01	72.07	654	2	0.02	F	F	15001	1
					0.01	F	F	15001	1

## MURMANSK, U.S.S.R.

GEOGRAPHIC LATITUDE = 68.97 N

GEOGRAPHIC LONGITUDE = 33.0A E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	48.84	71.27	103	10	0.65	7.20	191.07	1439	1
19.00	47.80	71.05	102	10	0.64	8.89	196.85	1469	1
18.00	46.73	70.75	103	10	0.63	11.43	205.40	1510	1
17.00	45.65	70.37	104	10	0.62	13.39	214.67	1554	1
16.00	44.56	69.89	104	10	0.61	13.72	222.57	1595	1
15.00	43.51	69.33	104	10	0.60	12.71	232.64	1643	1
14.00	42.53	68.71	104	10	0.59	6.98	252.28	1729	1
13.00	41.67	68.11	148	9	0.58	-16.22	288.47	1901	1
12.00	40.99	67.57	148	9	0.57	4.86	423.23	3209	1
11.00	40.51	67.30	193	8	0.56	-10.49	345.73	2617	1
10.00	40.19	67.59	235	7	0.55	-1.72	436.08	3731	1
9.00	39.80	68.80	235	7	0.54	7.77	556.77	7660	1
8.00	38.67	71.18	278	6	0.53	2.76	604.28	6105	1
7.00	35.75	74.20	335	5	0.52	-11.47	667.11	24864	1
6.00	30.71	75.86	338	5	0.51	-13.11	626.65	5436	1
5.00	26.63	75.06	468	4	0.50	-3.45	736.03	9858	1
4.00	24.67	78.30	542	3	0.49	F	F	32000	1
3.00	16.58	81.35	559	3	0.48	F	F	32000	1
2.00	6.93	90.82	656	2	0.47	F	F	32000	1
1.90	4.40	92.52	664	2	0.46	F	F	32000	1
1.80	2.88	93.35	673	2	0.45	F	F	15001	1
1.70	2.54	94.69	683	2	0.44	F	F	15001	1
1.60	.49	97.68	696	2	0.43	F	F	15001	1
1.50	-2.18	100.02	840	1	0.42	F	F	15001	1
1.40	-2.70	102.26	860	1	0.41	F	F	15001	1
1.30	-5.84	106.86	887	1	0.40	F	F	15001	1
1.20	-6.66	110.20	917	1	0.39	F	F	15001	1
1.10	-9.38	116.70	959	1	0.38	F	F	15001	1
1.00	-10.79	124.42	1010	1	0.37	F	F	15001	1
0.90	-11.09	134.48	1078	1	0.36	F	F	15001	1
0.80	-8.85	149.83	1177	1	0.27	F	F	15001	1
0.70	-1.05	171.16	1322	1	0.29	F	F	15001	1
0.69	.21	174.97	1343	1	0.17	R	R	7031	1
0.68	2.20	179.63	1367	1	0.12	R	R	9212	1
0.67	4.41	184.82	1393	1	0.07	F	F	15001	1
0.66	6.83	187.47	1416	1	0.02	F	F	15001	1



## ORSAY, FRANCE

GEOGRAPHIC LATITUDE = 48.42 N

GEOGRAPHIC LONGITUDE = 2.12 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	16.64	55.47	108	10	3.86	-3.04	342.69	2218	1
19.00	14.26	56.45	108	10	3.85	20.12	428.90	3376	1
18.00	11.70	57.45	109	10	3.84	4.99	763.64	8488	1
17.00	8.95	58.47	110	10	3.83	1.76	902.68	8410	1
16.00	6.03	59.50	110	10	3.82	-5.42	376.47	2413	1
15.00	2.96	60.81	112	10	3.81	R	R	2610	1
14.00	-.13	62.15	113	10	3.80	-5.38	387.05	3080	1
13.00	-3.18	63.70	162	9	3.79	10.38	409.46	3211	1
12.00	-5.90	65.52	165	9	3.78	-1.78	386.67	3339	1
11.00	-8.16	67.67	214	8	3.77	R	R	1466	1
10.00	-9.44	70.27	264	7	3.76	R	R	1364	1
9.00	-9.64	73.45	260	7	3.75	R	R	1340	1
8.00	-8.77	77.94	310	6	3.74	R	R	1323	1
7.00	-7.95	85.80	385	5	3.73	R	R	1312	1
6.00	-8.85	101.70	395	5	3.72	R	R	1305	1
5.00	-1.82	136.95	594	4	3.71	R	R	1300	1
4.90	.95	172.25	604	4	3.70	R	R	1299	1
4.80	4.28	148.10	621	4	3.69	R	R	1300	1
4.70	8.04	154.60	634	4	3.68	R	R	1304	1
4.60	12.17	162.35	650	4	3.67	R	R	1313	1
4.50	16.00	171.62	766	3	3.66	R	R	1337	1
4.40	18.84	183.21	792	3	3.65	R	R	1376	1
4.30	14.00	148.00	825	3	3.64	R	R	1425	1
4.20	13.34	216.85	864	3	3.63	R	R	9485	1
4.10	-4.60	243.24	222	1	3.62	-10.32	995.04	8787	1
4.00	-7.65	247.10	1236	1	3.61	.31	575.73	4983	1
4.00	-10.84	251.45	1252	1	3.60	0.92	531.44	6051	1
4.01	-14.43	256.44	1271	1	3.59	F	F	15001	1
4.00	-18.20	262.61	1292	1	3.58	16.91	477.61	4708	1
4.00	-22.05	270.30	1310	1	3.57	-18.08	720.89	7077	1
4.00	-25.55	280.67	1344	1	3.56	12.42	454.65	4606	1
4.00	-27.51	245.11	1391	1	3.55	R	R	6108	1
4.00	-24.50	316.05	1482	1	3.54	F	F	15001	1
4.01	-6.25	348.75	1567	1	3.53	R	R	2548	1
4.00	-17.14	604.52	5024	1	3.52	-0.22	889.25	9954	1
3.99	11.94	505.71	4404	1	3.51	5.27	849.55	9432	1
3.90	R	R	1626	1	3.50	0.81	1130.73	12066	1
3.97	17.95	1143.82	12155	1	3.49	R	R	4385	1
3.90	-3.84	518.61	4312	1	3.48	R	R	9719	1
3.95	8.74	546.32	3701	1	3.47	R	R	3168	1
3.94	26.84	440.95	3224	1	3.46	R	R	4824	1
3.95	-11.65	308.90	2064	1	3.45	-1.11	885.82	10103	1
3.92	-4.01	303.20	1885	1	3.44	R	R	3949	1
3.91	-12.97	310.77	1880	1	3.43	R	R	2204	1
3.90	7.18	521.82	3430	1	42	8.95	1172.61	13447	1
3.84	-4.01	304.80	2865	1	3.41	F	F	15001	1
3.80	R	R	3435	1	3.40	R	R	5082	1
3.87	R	R	3727	1	3.39	R	R	5603	1

URSAY, FRANCE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 48.42 N

GEOGRAPHIC LONGITUDE = 2.12 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
3.30	K	K	4179	1	3.08	R	R	1073	1
3.37	F	F	15001	1	3.07	R	R	6211	1
3.30	K	K	6084	1	3.06	R	R	7369	1
3.35	K	K	1762	1	3.05	R	R	2390	1
3.34	K	K	1735	1	3.04	F	F	15001	1
3.35	K	K	1784	1	3.03	R	R	8930	1
3.32	K	K	9567	1	3.02	R	R	5090	1
3.31	F	F	15001	1	3.00	F	F	12003	3
3.30	F	F	15001	1	2.97	R	R	4043	1
3.29	K	K	12451	1	2.92	F	F	15001	1
3.28	K	K	4511	1	2.87	R	R	1872	1
3.27	K	K	3198	1	2.82	R	R	13986	1
3.26	-13.04	710.54	7502	1	2.77	F	F	15001	1
3.25	K	R	2329	1	2.72	R	R	10991	1
3.24	.12	1098.29	11461	1	2.67	R	R	13448	1
3.23	F	F	15001	1	2.62	F	F	15001	1
3.22	K	K	8120	1	2.57	R	R	3165	1
3.21	K	K	9449	1	2.52	R	R	4053	1
3.20	K	K	2263	1	2.47	R	R	9112	1
3.19	K	K	4632	1	2.42	R	R	10259	1
3.18	K	K	9277	1	2.37	R	R	1868	1
3.17	K	K	6677	1	2.32	F	F	15001	1
3.15	F	F	15001	1	2.27	R	R	1969	1
3.15	K	K	12720	1	2.22	R	R	2099	1
3.14	K	R	1725	1	2.17	R	R	10539	1
3.13	K	K	1648	1	2.12	R	R	8750	1
3.12	K	K	1042	1	2.07	R	R	1079	1
3.11	K	K	1080	1	2.02	R	R	1048	1
3.10	K	K	4492	1	1.97	R	R	1048	1
3.09	F	F	15001	1	1.13	R	R	133	1

## OTTAWA, CANADA

GEOGRAPHIC LATITUDE = 45.40 N

GEOGRAPHIC LONGITUDE = 284.40 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	21.37	-38.97	105	10	1.16	R	R	1753	1
19.00	19.72	-38.67	105	10	1.15	-2.96	644.15	5687	1
18.00	17.90	-38.44	105	10	1.14	2.40	424.22	4886	1
17.00	16.11	-38.29	106	10	1.13	-6.40	248.35	2443	1
16.00	14.17	-38.27	106	10	1.12	-3.89	611.43	5314	1
15.00	12.16	-38.30	106	10	1.11	-8.66	293.25	2524	1
14.00	10.20	-38.57	107	10	1.10	-11.51	244.25	2097	1
13.00	8.29	-38.95	151	9	1.09	-4.55	369.14	3516	1
12.00	6.57	-39.39	152	9	1.08	10.82	512.96	4788	1
11.00	5.10	-39.80	190	8	1.07	R	R	13750	1
10.00	4.23	-40.17	241	7	1.06	3.17	1249.02	12626	1
9.00	3.73	-39.85	242	7	1.05	R	R	2151	1
8.00	3.20	-38.30	280	6	1.04	F	F	15001	1
7.00	1.29	-34.90	343	5	1.03	F	F	15001	1
6.00	-3.90	-30.15	347	5	1.02	F	F	15001	1
5.00	-11.10	-27.65	486	4	1.01	F	F	15001	1
4.00	-13.34	-22.72	565	3	1.00	F	F	15001	1
3.00	-21.54	-8.25	591	3	0.99	F	F	15001	1
2.90	-21.50	-7.19	653	2	0.98	F	F	15001	1
2.80	-21.38	-5.91	650	2	0.97	F	F	15001	1
2.70	-21.20	-4.01	660	2	0.96	R	R	2135	1
2.60	-21.40	-1.24	664	2	0.95	F	F	15001	1
2.50	-22.07	2.49	670	2	0.94	F	F	15001	1
2.40	-22.70	6.81	677	2	0.93	F	F	15001	1
2.30	-22.95	10.91	687	2	0.92	R	R	13689	1
2.20	-22.35	14.01	695	2	0.91	F	F	15001	1
2.10	-21.15	16.62	703	2	0.90	F	F	15001	1
2.00	-19.85	20.72	714	2	0.89	F	F	15001	1
1.90	-18.14	27.70	720	2	0.88	F	F	15001	1
1.80	-14.71	35.45	747	2	0.87	R	R	3217	1
1.70	-10.32	40.70	760	2	0.86	F	F	15001	1
1.60	-5.50	47.75	789	2	0.81	F	F	15001	1
1.50	5.02	61.26	980	1	0.76	F	F	15001	1
1.40	17.25	75.64	1039	1	0.71	F	F	15001	1
1.30	28.54	114.50	1151	1	0.66	F	F	15001	1
1.29	27.85	123.80	1174	1	0.61	F	F	15001	1
1.20	25.09	134.75	1204	1	0.56	F	F	15001	1
1.27	19.19	146.99	1240	1	0.51	F	F	15001	1
1.20	8.74	161.07	1287	1	0.50	F	F	15001	1
1.25	-7.70	161.00	1359	1	0.45	R	R	5578	1
1.24	-17.24	257.77	1520	1	0.40	R	R	2789	1
1.25	-25.75	308.74	3152	1	0.35	R	R	3041	1
1.22	-14.77	324.99	2095	1	0.30	R	R	3472	1
1.21	-5.94	200.07	1785	1	0.25	R	R	4111	1
1.20	-3.60	278.79	2025	1	0.20	R	R	5062	1
1.19	-11.75	914.04	8908	1	0.15	R	R	6669	1
1.10	-2.80	805.75	7804	1	0.10	R	R	9925	1
1.17	-0.00	258.29	2936	1	0.05	F	F	15001	1

## OULU, FINLAND

GEOGRAPHIC LATITUDE = 65.00 N

GEOGRAPHIC LONGITUDE = 25.42 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	41.94	65.64	104	10	0.87	R	R	1941	1
19.00	40.64	65.57	104	10	0.86	-17.64	665.47	5705	1
18.00	39.34	65.38	104	10	0.85	-5.85	374.33	3049	1
17.00	37.95	65.10	104	10	0.84	7.06	853.93	77056	1
16.00	36.55	64.75	105	10	0.83	-3.74	643.26	6519	1
15.00	35.16	64.26	105	10	0.82	-7.84	823.82	07612	1
14.00	33.83	63.70	105	10	0.81	-6.27	961.95	6882	1
13.00	32.64	63.12	149	9	0.80	F	F	32000	1
12.00	31.64	62.56	150	9	0.79	8.51	1149.11	10043	1
11.00	30.92	62.19	195	8	0.78	F	F	32000	1
10.00	30.50	62.28	238	7	0.77	R	R	16967	1
9.00	30.20	63.26	238	7	0.76	F	F	32000	1
8.00	29.36	65.60	282	6	0.75	F	F	32000	1
7.00	26.65	69.21	339	5	0.74	F	F	15001	1
6.00	20.94	72.41	342	5	0.73	F	F	15001	1
5.00	15.04	73.04	477	4	0.72	F	F	15001	1
4.00	13.22	76.24	553	3	0.71	F	F	15001	1
3.00	3.21	83.61	574	3	0.70	F	F	15001	1
2.00	-5.33	99.81	641	2	0.69	R	R	7333	1
1.90	-7.37	103.98	692	2	0.68	F	F	15001	1
1.80	-9.26	108.05	705	2	0.67	F	F	15001	1
1.70	-9.29	110.87	717	2	0.66	F	F	15001	1
1.60	-9.50	115.33	732	2	0.65	F	F	15001	1
1.50	-10.81	123.21	891	1	0.64	F	F	15001	1
1.40	-9.63	129.05	918	1	0.63	F	F	15001	1
1.30	-8.67	138.90	954	1	0.62	F	F	15001	1
1.20	-4.41	150.67	1004	1	0.61	F	F	15001	1
1.10	2.34	169.57	1076	1	0.60	F	F	15001	1
1.00	12.12	197.83	1186	1	0.59	F	F	15001	1
0.99	13.36	204.16	1206	1	0.58	F	F	15001	1
0.98	14.29	211.89	1231	1	0.57	F	F	15001	1
0.97	14.30	220.90	1261	1	0.48	F	F	15001	1
0.96	12.74	230.77	1294	1	0.43	F	F	15001	1
0.95	4.21	240.99	1330	1	0.38	F	F	15001	1
0.94	3.64	241.40	1369	1	0.33	R	R	6727	1
0.93	-4.05	243.83	1415	1	0.28	F	F	15001	1
0.92	-15.42	240.89	1481	1	0.23	R	R	4615	1
0.91	-26.71	228.74	1632	1	0.18	R	R	5839	1
0.90	-9.30	246.67	2402	1	0.13	R	R	8001	1
0.89	-4.83	285.97	4201	1	0.08	R	R	12916	1
0.88	16.45	448.01	3747	1	0.03	F	F	15001	1

## PALU ALTO, UNITED STATES

GEOGRAPHIC LATITUDE = 37.42 N

GEOGRAPHIC LONGITUDE = 21.7.85 E

P	ASYMPTOTIC LAT	LONG	ISTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
15.00	-24.26	-74.75	114	10	4.80	R	R	1344	1
14.00	-27.63	-72.45	110	10	4.79	R	R	1356	1
13.00	-30.78	-69.51	160	9	4.78	R	R	1376	1
12.00	-33.38	-65.77	160	9	4.77	R	R	1398	1
11.00	-35.00	-61.13	222	9	4.76	R	R	1422	1
10.00	-35.19	-55.70	275	7	4.75	R	R	1450	1
9.00	-33.74	-49.55	270	7	4.74	R	R	1494	1
8.00	-30.90	-41.71	334	6	4.73	R	R	3254	1
7.00	-26.87	-28.69	405	5	4.72	R	R	3356	1
6.00	-15.60	-2.00	430	5	4.71	0.39	401.39	5229	1
5.90	-12.95	1.92	604	4	4.70	R	R	4959	1
5.80	-9.75	6.10	615	4	4.69	R	R	5490	1
5.70	-5.79	10.87	624	4	4.68	-11.29	660.16	7450	1
5.60	-4.49	16.14	637	4	4.67	R	R	8222	1
5.50	4.82	22.31	653	4	4.66	R	R	2612	1
5.40	11.75	30.11	674	4	4.65	3.45	736.36	8762	1
5.30	14.61	41.14	700	4	4.64	-3.61	403.06	4979	1
5.20	26.67	59.40	740	4	4.63	R	R	3457	1
5.10	23.25	93.80	800	4	4.62	R	R	8624	1
5.09	21.12	98.60	1228	1	4.61	R	R	3364	1
5.00	18.40	103.83	1240	1	4.60	R	R	6974	1
5.07	14.95	109.40	1260	1	4.59	R	R	3377	1
5.06	10.65	115.75	1291	1	4.58	F	F	15001	1
5.05	5.32	123.09	1320	1	4.57	R	R	6502	1
5.04	-1.12	132.31	1357	1	4.56	R	R	5001	1
5.03	-8.37	145.42	1407	1	4.55	R	R	4680	1
5.02	-13.63	167.90	1483	1	4.54	1.82	250.05	3439	1
5.01	3.35	221.87	1663	1	4.53	R	R	2333	1
5.00	-13.83	245.53	2644	1	4.52	R	R	2357	1
4.99	-1.38	216.20	3060	1	4.51	-5.78	239.62	3368	1
4.98	-2.24	335.67	2925	1	4.50	11.82	469.73	4452	1
4.97	6.68	202.75	2183	1	4.49	R	R	2784	1
4.96	.50	154.97	2044	1	4.48	2.10	190.31	2715	1
4.95	N	N	3400	1	4.47	-7.40	219.22	2778	1
4.94	-11.02	891.05	7603	1	4.46	-0.12	498.69	7651	1
4.93	7.71	179.81	2347	1	4.45	6.79	197.36	3297	1
4.92	N	N	2741	1	4.44	.22	206.17	2935	1
4.91	12.79	400.25	4951	1	4.43	.03	199.05	3468	1
4.90	N	N	1667	1	4.42	-0.78	211.75	3239	1
4.89	N	N	1427	1	4.41	R	R	1988	1
4.88	N	N	1402	1	4.40	R	R	1902	1
4.87	N	N	1386	1	4.39	R	R	1807	1
4.86	N	N	1371	1	4.38	R	R	1765	1
4.85	N	N	1350	1	4.37	R	R	1755	1
4.84	N	N	1341	1	4.36	R	R	1754	1
4.83	N	N	1342	1	4.35	R	R	1756	1
4.82	N	N	1339	1	4.34	R	R	1763	1
4.81	N	N	1339	1	4.33	R	R	1770	1

ut

GEUGRAPHIC LONGITUDE = 237.85 E

[illegible]

## PIC DU MIDI, FRANCE

GEOGRAPHIC LATITUDE = 42.93 N

GEOGRAPHIC LONGITUDE = 0.25 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	9.15	59.89	110	10	5.48	-1.90	585.97	4928	1
19.00	6.47	61.57	110	10	5.47	R	R	5227	1
18.00	3.57	63.42	111	10	5.46	-8.45	613.61	6178	1
17.00	.45	65.51	115	10	5.45	R	R	1375	1
16.00	-2.84	67.91	114	10	5.44	R	R	1333	1
15.00	-6.25	70.77	110	10	5.43	R	R	1314	1
14.00	-9.61	74.21	110	10	5.42	R	R	1302	1
13.00	-12.65	78.47	170	9	5.41	R	R	1294	1
12.00	-14.91	83.77	175	9	5.40	R	R	1295	1
11.00	-15.68	90.24	230	8	5.39	R	R	1291	1
10.00	-14.21	97.77	280	7	5.38	R	R	1298	1
9.00	-10.08	106.20	294	7	5.37	R	R	1318	1
8.00	-3.77	116.35	350	6	5.36	R	R	1347	1
7.00	3.78	132.77	444	5	5.35	R	R	1377	1
6.90	4.65	135.25	447	5	5.34	R	R	1418	1
6.80	5.52	137.94	450	5	5.33	16.86	455.10	5004	1
6.70	6.40	140.90	453	5	5.32	R	R	3297	1
6.60	7.40	144.34	457	5	5.31	R	R	2667	1
6.50	8.55	148.10	462	5	5.30	-10.45	691.69	6247	1
6.40	9.68	152.50	467	5	5.29	R	R	4560	1
6.30	10.92	157.67	474	5	5.28	-1.49	595.09	6308	1
6.20	12.25	163.72	482	5	5.27	R	R	2616	1
6.10	13.54	171.05	491	5	5.26	-3.11	651.31	5842	1
6.00	14.65	180.25	691	4	5.25	13.68	423.01	3857	1
5.90	14.90	192.35	715	4	5.24	R	R	5193	1
5.80	12.89	209.19	740	4	5.23	10.09	462.93	3236	1
5.70	2.72	235.70	1205	1	5.22	-12.52	668.08	4952	1
5.69	.67	239.55	1217	1	5.21	R	R	3263	1
5.60	-1.70	243.69	1232	1	5.20	25.42	1166.71	10579	1
5.67	-4.44	248.30	1249	1	5.19	R	R	2466	1
5.60	-7.65	253.75	1269	1	5.18	R	R	2218	1
5.65	-11.30	260.14	1295	1	5.17	R	R	4602	1
5.64	-15.40	268.14	1321	1	5.16	R	R	2731	1
5.65	-19.95	278.85	1357	1	5.15	-3.70	550.23	4753	1
5.62	-23.84	294.65	1407	1	5.14	R	R	6183	1
5.61	-28.90	320.75	1485	1	5.13	-25.99	683.93	6308	1
5.60	7.89	379.85	1695	1	5.12	3.57	515.83	5201	1
5.59	7.20	445.81	2749	1	5.11	R	R	1801	1
5.59	K	K	1775	1	5.10	R	R	1767	1
5.57	7.90	474.74	3505	1	5.09	R	R	1767	1
5.50	-2.57	740.55	7270	1	5.08	R	R	1790	1
5.55	-7.44	374.62	2261	1	5.07	R	R	1906	1
5.54	-8.31	358.85	2130	1	5.06	R	R	6106	1
5.55	K	K	6035	1	5.05	5.10	934.06	6010	1
5.52	21.77	476.05	3560	1	5.04	-4.47	701.45	6424	1
5.51	K	K	2430	1	5.03	R	R	5915	1
5.50	4.55	522.24	4802	1	5.02	R	R	2532	1
5.49	3.97	497.19	4550	1	5.01	F	F	15001	1

PIC DU MIDI, FRANCE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE - 42.93 N

GEOGRAPHIC LONGITUDE = 0.25 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
5.00	K	K	5860	1	4.66	R	R	4084	1
4.99	K	K	3474	1	4.65	R	R	12234	1
4.98	K	K	3543	1	4.64	R	R	4555	1
4.97	K	K	7923	1	4.63	F	F	15001	1
4.96	K	K	4539	1	4.62	R	R	3144	1
4.95	-6.87	719.31	6910	1	4.61	F	F	15001	1
4.94	K	K	8502	1	4.60	R	R	4336	1
4.93	K	K	5769	1	4.59	F	F	15001	1
4.92	K	K	4252	1	4.58	R	R	2596	1
4.91	K	K	3227	1	4.57	R	R	7829	1
4.90	K	K	12084	1	4.56	R	R	2635	1
4.89	K	K	3147	1	4.55	R	R	2887	1
4.88	K	K	2412	1	4.54	R	R	6733	1
4.87	K	K	4468	1	4.49	R	R	4705	1
4.86	K	K	3601	1	4.44	R	R	3569	1
4.85	K	K	3294	1	4.39	R	R	1785	1
4.84	K	K	4840	1	4.34	R	R	1683	1
4.83	K	K	12096	1	4.29	R	R	5585	1
4.82	K	K	8842	1	4.24	F	F	15001	1
4.81	K	K	1766	1	4.19	R	R	2337	1
4.80	K	K	1653	1	4.14	R	R	5471	1
4.79	K	K	1622	1	4.09	R	R	3536	1
4.78	K	K	1606	1	4.04	R	R	4806	1
4.77	K	K	1599	1	3.99	F	F	15001	1
4.76	K	K	1601	1	3.94	R	R	4727	1
4.75	K	K	1612	1	3.89	R	R	13805	1
4.74	K	K	1722	1	3.84	R	R	2930	1
4.73	K	K	6150	1	3.79	R	R	4382	1
4.72	K	K	5761	1	3.74	R	R	3719	1
4.71	K	K	5634	1	3.69	R	R	2920	1
4.70	F	F	15001	1	3.64	R	R	2926	1
4.69	K	K	14594	1	3.59	R	R	5139	1
4.68	K	K	7287	1	3.54	F	F	15001	1
4.67	K	K	2224	1	3.49	F	F	15001	1
					2.65	R	R	660	2



## POINT BARROW, UNITED STATES

GEOGRAPHIC LATITUDE = 71.33 N

GEOGRAPHIC LONGITUDE = 203.50 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	48.89	-140.81	103	10	0.40	-32.60	-92.18	1871	1
19.00	48.01	-141.50	103	10	0.39	-32.11	-88.46	1920	1
18.00	47.12	-142.28	103	10	0.38	-31.62	-84.26	1971	1
17.00	46.23	-143.16	103	10	0.37	-30.53	-80.67	2026	1
16.00	45.35	-144.12	103	10	0.36	-28.98	-75.48	2087	1
15.00	44.52	-145.17	103	10	0.35	-27.14	-70.39	2153	1
14.00	43.78	-146.26	103	10	0.34	-24.66	-65.56	2224	1
13.00	43.15	-147.33	147	9	0.33	-21.09	-59.78	2304	1
12.00	42.68	-148.30	147	9	0.32	-16.26	-52.92	2396	1
11.00	42.39	-148.99	192	8	0.31	-10.07	-45.12	2502	1
10.00	42.18	-149.16	233	7	0.30	-2.24	-35.73	2626	1
9.00	41.77	-148.55	234	7	0.29	7.49	-22.35	2784	1
8.00	40.57	-147.15	276	6	0.28	16.65	2.41	3008	1
7.00	37.78	-145.90	332	5	0.27	-4.58	78.95	3553	1
6.00	33.64	-146.61	334	5	0.26	-22.87	611.05	88507	1
5.00	31.05	-148.98	461	4	0.25	-1.89	388.61	2398	1
4.00	28.61	-147.18	533	3	0.24	5.67	386.21	69219	1
3.00	22.89	-148.35	547	3	0.23	R	R	6577	1
2.00	13.16	-145.36	637	2	0.22	F	F	32000	1
1.90	11.72	-145.83	644	2	0.21	F	F	32000	1
1.80	11.32	-146.79	651	2	0.20	F	F	15003	1
1.70	9.99	-145.75	0	2	0.19	F	F	15001	1
1.60	7.44	-145.60	672	2	0.18	R	R	9717	1
1.50	6.57	-145.69	808	1	0.17	F	F	15001	1
1.40	4.43	-144.44	826	1	0.16	F	F	15001	1
1.30	2.34	-144.57	848	1	0.15	F	F	15001	1
1.20	-1.12	-143.14	874	1	0.14	F	F	15001	1
1.10	-2.09	-142.49	907	1	0.13	F	F	15001	1
1.00	-5.41	-141.42	949	1	0.12	F	F	15001	1
0.90	-8.89	-139.61	1004	1	0.11	F	F	15001	1
0.80	-12.82	-136.93	1075	1	0.10	F	F	15001	1
0.70	-18.01	-133.16	1174	1	0.09	F	F	15003	1
0.60	-23.34	-127.17	1313	1	0.08	F	F	15003	1
0.50	-29.47	-115.85	1524	1	0.07	F	F	15003	1
					0.06	F	F	15003	1

## POSADAS, ARGENTINA

GEOGRAPHIC LATITUDE = 27.37 S

GEOGRAPHIC LONGITUDE = 504.03 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	5.00	16.84	115	10	11.60	R	R	1260	1
19.00	7.84	21.24	115	10	11.59	R	R	1246	1
18.00	10.94	26.57	117	10	11.58	R	R	1237	1
17.00	14.36	33.13	120	10	11.57	R	R	1229	1
16.00	17.95	41.60	123	10	11.56	R	R	1223	1
15.00	21.30	53.14	126	10	11.55	R	R	1216	1
14.00	22.94	70.12	130	10	11.54	R	R	1214	1
13.00	18.27	46.73	215	9	11.53	R	R	1214	1
12.90	17.00	100.20	210	9	11.52	R	R	1214	1
12.80	15.46	104.01	214	9	11.51	R	R	1218	1
12.70	13.68	108.04	222	9	11.50	R	R	1225	1
12.60	11.57	112.42	227	9	11.49	R	R	1236	1
12.50	9.04	117.23	232	9	11.48	R	R	1254	1
12.40	6.20	122.60	237	9	11.47	R	R	1278	1
12.30	2.85	128.74	244	9	11.46	R	R	1307	1
12.20	-0.97	136.10	252	9	11.45	R	R	1339	1
12.10	-5.10	145.53	263	9	11.44	R	R	1372	1
12.00	-7.20	158.35	354	8	11.43	R	R	1407	1
11.90	-11.25	178.10	382	8	11.42	R	R	1443	1
11.80	-11.12	180.80	1363	1	11.41	R	R	1484	1
11.80	-10.84	183.61	1377	1	11.40	R	R	1535	1
11.80	-10.52	186.62	1392	1	11.39	-0.66	207.83	2574	1
11.80	-10.02	189.84	1404	1	11.38	-0.82	220.06	2554	1
11.80	-9.34	193.32	1427	1	11.37	-0.83	293.35	2870	1
11.80	-8.47	197.00	1447	1	11.36	R	R	2373	1
11.80	-7.30	201.10	1464	1	11.35	R	R	2257	1
11.80	-5.98	205.70	1495	1	11.34	R	R	2826	1
11.80	-4.24	210.75	1521	1	11.33	-10.41	383.27	3621	1
11.80	-2.25	216.44	1553	1	11.32	R	R	1816	1
11.70	.10	223.00	1590	1	11.31	R	R	1796	1
11.70	2.90	231.00	1635	1	11.30	R	R	1791	1
11.70	5.70	241.15	1692	1	11.29	R	R	1800	1
11.70	7.91	254.80	1764	1	11.28	R	R	1824	1
11.70	6.38	275.53	1888	1	11.27	R	R	1864	1
11.70	-11.92	315.91	2152	1	11.26	R	R	1932	1
11.70	R	R	2072	1	11.25	.99	384.93	3533	1
11.70	R	R	1811	1	11.24	R	R	2931	1
11.70	R	R	1867	1	11.23	R	R	2376	1
11.70	R	R	2673	1	11.22	-17.12	309.37	2553	1
11.70	R	R	3014	1	11.21	-12.56	255.49	2277	1
11.60	-4.00	204.14	2429	1	11.20	-4.85	236.06	2176	1
11.60	14.22	403.65	3255	1	11.19	R	R	940	1
11.60	R	R	1404	1	11.18	R	R	929	1
11.60	R	R	1362	1	11.17	R	R	919	1
11.60	R	R	1333	1	11.16	R	R	911	1
11.60	R	R	1304	1	11.15	R	R	904	1
11.60	R	R	1290	1	11.14	R	R	897	1
11.60	R	R	1275	1	11.13	R	R	891	1

POSAJAS, ARGENTINA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 27.37 S

GEOGRAPHIC LONGITUDE = 304.03 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
11.12	R	R	885	1	10.79	R	R	765	1
11.11	R	R	880	1	10.74	R	R	752	1
11.10	R	R	873	1	10.69	R	R	741	1
11.09	R	R	869	1	10.64	R	R	731	1
11.08	R	R	864	1	10.59	R	R	721	1
11.07	R	R	859	1	10.54	R	R	711	1
11.06	R	R	854	1	10.49	R	R	702	1
11.05	R	R	850	1	10.44	R	R	694	1
11.04	R	R	846	1	10.39	R	R	686	1
11.03	R	R	841	1	10.34	R	R	678	1
11.02	R	R	836	1	10.29	R	R	671	1
11.01	R	R	833	1	10.24	R	R	664	1
11.00	R	R	829	1	10.19	R	R	657	1
10.99	R	R	825	1	10.14	R	R	650	1
10.94	R	R	809	1	10.09	R	R	644	1
10.89	R	R	792	1	10.04	R	R	638	1
10.84	R	R	779	1	9.99	R	R	632	1
					9.94	R	R	626	1

## PRAGUE, CZECHOSLOVAKIA

GEOGRAPHIC LATITUDE = 50.07 N

GEOGRAPHIC LONGITUDE = 14.43 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	17.20	05.54	100	10	3.59	R	R	7102	1
19.00	14.97	06.40	100	10	3.58	-9.78	701.54	6506	1
18.00	12.51	07.25	109	10	3.57	R	R	1489	1
17.00	9.80	08.10	109	10	3.56	R	R	1363	1
16.00	7.11	09.00	110	10	3.55	R	R	1328	1
15.00	4.20	10.00	111	10	3.54	R	R	1310	1
14.00	1.30	11.17	112	10	3.53	R	R	1300	1
13.00	-1.54	12.40	160	9	3.52	R	R	1298	1
12.00	-4.10	13.92	162	9	3.51	R	R	1303	1
11.00	-6.21	15.64	212	8	3.50	R	R	1330	1
10.00	-7.50	17.90	260	7	3.49	R	R	1369	1
9.00	-7.74	00.80	262	7	3.48	F	F	15001	1
8.00	-7.31	05.10	312	6	3.47	R	R	8548	1
7.00	-7.20	02.90	370	5	3.46	13.23	493.51	3377	1
6.00	-9.34	108.42	390	5	3.45	6.89	530.28	4513	1
5.00	-5.11	140.30	585	4	3.44	R	R	5648	1
4.90	-2.90	144.81	590	4	3.43	R	R	6743	1
4.80	-0.34	149.50	600	4	3.42	1.27	740.42	6160	1
4.70	2.60	154.60	610	4	3.41	R	R	12221	1
4.60	5.94	160.14	624	4	3.40	R	R	2496	1
4.50	9.40	166.20	730	3	3.39	R	R	4946	1
4.40	12.81	173.22	740	3	3.38	-12.37	672.70	6382	1
4.30	15.70	181.30	760	3	3.37	14.03	1159.28	13645	1
4.20	17.50	191.04	782	3	3.36	R	R	11912	1
4.10	17.50	202.70	805	3	3.35	7.07	920.59	8807	1
4.00	14.32	217.40	834	3	3.34	2.20	975.56	9146	1
3.90	4.64	237.14	874	3	3.33	-7.46	557.34	5086	1
3.80	-20.87	277.90	970	3	3.32	R	R	11790	1
3.70	-24.32	207.80	1320	1	3.31	F	F	15001	1
3.70	-26.64	301.64	1360	1	3.30	F	F	15001	1
3.71	-24.80	322.00	1422	1	3.29	R	R	3274	1
3.70	-8.64	304.30	1830	1	3.28	F	F	15001	1
3.70	-15.04	902.60	9084	1	3.27	F	F	15001	1
3.70	1.24	406.94	2034	1	3.26	R	R	1767	1
3.70	R	R	1034	1	3.25	R	R	1739	1
3.70	9.20	402.61	3711	1	3.24	R	R	1834	1
3.70	-12.02	309.70	2292	1	3.23	F	F	15001	1
3.7	R	R	8061	1	3.22	R	R	6264	1
3.6	-5.02	303.21	1450	1	3.21	F	F	15001	1
3.60	-11.30	318.60	1050	1	3.20	-0.58	977.53	0218	1
3.57	1.42	478.10	2367	1	3.19	R	R	9362	1
3.60	20.20	442.80	3484	1	3.18	R	R	2382	1
3.60	-10.17	305.31	2021	1	3.17	R	R	4209	1
3.64	R	R	2701	1	3.16	F	F	15001	1
3.60	23.00	475.90	3434	1	3.15	R	R	12074	1
3.60	22.30	400.30	3090	1	3.14	R	R	2968	1
3.61	-5.50	525.24	3021	1	3.13	F	F	15001	1
3.60	R	R	4220	1	3.12	R	R	14260	1

PRAGUE, CZECHOSLOVAKIA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 50.07 N GEOGRAPHIC LONGITUDE = 14.43 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
3.11	F	F	15001	1	2.88	R	R	6366	1
3.10	K	K	13514	1	2.87	F	F	15001	1
3.09	F	F	15001	1	2.82	R	R	11062	1
3.08	-4.24	913.80	11083	1	2.77	F	F	15001	1
3.07	F	F	15001	1	2.72	R	R	14782	1
3.06	K	K	1862	1	2.67	K	K	1906	1
3.05	K	K	1659	1	2.62	R	R	1795	1
3.04	K	K	1641	1	2.57	R	R	1801	1
3.03	K	K	1663	1	2.52	F	F	15001	1
3.02	F	F	15001	1	2.47	R	R	4615	1
3.01	F	F	15001	1	2.42	R	R	5426	1
3.00	K	K	12037	1	2.37	R	R	7023	1
2.99	K	K	7065	1	2.32	R	R	1891	1
2.98	F	F	15001	1	2.27	R	R	11689	1
2.97	F	F	15001	1	2.22	R	R	5467	1
2.96	K	K	2304	1	2.17	R	R	2102	1
2.95	K	K	8603	1	2.12	R	R	11426	1
2.94	F	F	15001	1	2.07	R	R	1223	1
2.93	F	F	15001	1	2.02	R	R	1183	1
2.92	K	K	4753	1	1.97	R	R	1217	1
2.91	K	K	3467	1	1.92	F	F	15001	1
2.90	K	K	10506	1	1.87	F	F	15001	1
2.89	K	K	9004	1	1.07	R	R	1151	1

## RESOLUTION, CANADA

GEOGRAPHIC LATITUDE = 74.64 N

GEOGRAPHIC LONGITUDE = 265.04 E

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	STEP	5b	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	STEP	5b
20.00	70.05	-62.20	100	10	1.90	40.94	-91.76	773	1
19.00	69.76	-62.30	100	10	1.80	40.90	-91.74	780	1
18.00	69.45	-62.40	100	10	1.70	40.87	-92.14	808	1
17.00	69.12	-62.50	100	10	1.60	40.78	-92.28	831	1
16.00	68.77	-62.60	100	10	1.50	40.71	-92.60	861	1
15.00	68.41	-63.17	100	10	1.40	40.77	-92.47	898	1
14.00	68.04	-63.63	100	10	0.90	40.18	-93.30	946	1
13.00	67.66	-64.20	100	4	0.80	40.44	-93.59	1010	1
12.00	67.31	-64.91	100	4	0.70	40.70	-94.14	1098	1
11.00	66.94	-65.64	100	8	0.60	41.00	-94.66	1215	1
10.00	66.73	-66.44	100	7	0.50	40.64	-95.30	1342	1
9.00	66.52	-67.10	100	7	0.40	41.27	-96.20	1489	1
8.00	66.33	-67.50	100	6	0.30	40.44	-97.34	1649	1
7.00	65.94	-67.30	100	5	0.20	40.02	-98.23	1839	1
6.00	65.25	-67.24	100	5	0.10	42.67	-102.96	2177	1
5.00	64.28	-68.10	100	4	0.09	41.99	-103.56	2486	1
4.00	63.63	-68.94	100	3	0.08	41.38	-104.28	2706	1
3.00	62.24	-69.80	100	3	0.07	40.72	-105.04	2800	1
2.00	60.37	-70.70	100	2	0.06	40.01	-105.95	2800	1
1.90	60.00	-70.97	100	2	0.05	39.24	-107.04	2305	1
1.80	59.85	-71.25	100	2	0.04	F	F	15001	1
1.70	59.62	-71.20	100	2	0.03	F	F	15001	1
1.60	59.22	-71.42	100	2	0.02	F	F	15001	1

## REYKJAVIK, ICELAND

GEOGRAPHIC LATITUDE = 64.09 N

GEOGRAPHIC LONGITUDE = 338.42 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	46.80	23.54	104	10	0.50	15.15	148.52	1747	1
19.00	45.44	23.53	104	10	0.49	17.08	153.86	1790	1
18.00	44.11	23.40	104	10	0.48	20.16	165.15	1855	1
17.00	42.66	23.14	104	10	0.47	22.04	179.95	1933	1
16.00	41.21	22.73	104	10	0.46	20.09	193.31	2010	1
15.00	39.74	22.19	105	10	0.45	1.07	228.15	2193	1
14.00	38.33	21.43	105	10	0.44	-4.43	341.65	2709	1
13.00	37.05	20.56	149	9	0.43	-.63	317.63	3484	1
12.00	35.01	19.61	149	9	0.42	-11.44	676.60	9917	1
11.00	33.33	18.66	194	8	0.41	F	F	15001	1
10.00	31.13	18.09	237	7	0.40	13.03	818.73	12026	1
9.00	29.34	18.30	237	7	0.39	R	R	4481	1
8.00	27.40	20.02	280	6	0.38	F	F	15001	1
7.00	24.08	23.49	336	5	0.37	F	F	15001	1
6.00	24.53	26.84	339	5	0.36	F	F	15001	1
5.00	23.94	26.59	471	4	0.35	R	R	6220	1
4.00	23.33	27.76	544	3	0.34	F	F	15001	1
3.00	15.13	31.79	560	3	0.33	F	F	15001	1
2.00	8.29	39.19	654	2	0.32	F	F	15001	1
1.90	6.16	41.23	662	2	0.31	F	F	15001	1
1.80	3.84	42.17	671	2	0.30	F	F	15001	1
1.70	3.44	42.50	680	2	0.29	F	F	15001	1
1.60	2.81	44.72	692	2	0.28	F	F	15001	1
1.50	-.24	47.22	635	1	0.27	F	F	15001	1
1.40	-.91	48.10	654	1	0.26	F	F	15001	1
1.30	-3.02	51.83	676	1	0.25	F	F	15001	1
1.20	-4.50	53.83	907	1	0.24	F	F	15001	1
1.10	-7.20	58.76	945	1	0.23	F	F	15001	1
1.00	-8.40	63.19	990	1	0.22	F	F	15001	1
0.90	-10.03	69.10	1051	1	0.21	F	F	15001	1
0.80	-11.54	78.27	1134	1	0.20	F	F	15001	1
0.70	-10.53	69.79	1250	1	0.19	F	F	15001	1
0.60	-4.90	108.77	1425	1	0.18	R	R	11400	1
					0.10	R	R	11400	1
					0.05	F	F	15001	1

## RIO DE JANEIRO, BRAZIL

GEOGRAPHIC LATITUDE = 22.90 S

GEOGRAPHIC LONGITUDE = 316.78 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	0.75	28.00	115	10	11.09	R	R	1259	1
19.00	12.05	32.82	115	10	11.08	R	R	1250	1
18.00	14.52	38.54	117	10	11.07	R	R	1234	1
17.00	17.07	45.60	120	10	11.06	R	R	1219	1
16.00	19.49	54.80	125	10	11.05	R	R	1207	1
15.00	21.10	67.09	126	10	11.04	R	R	1196	1
14.00	20.55	64.40	130	10	11.03	R	R	1186	1
13.00	12.95	111.11	214	9	11.02	R	R	1177	1
12.90	11.40	114.60	217	9	11.01	R	R	1169	1
12.80	9.64	118.54	220	9	11.00	R	R	1162	1
12.70	7.64	122.70	224	9	11.59	R	R	1157	1
12.60	5.30	127.42	229	9	11.58	R	R	1152	1
12.50	2.80	132.60	234	9	11.57	R	R	1148	1
12.40	-0.00	138.75	241	9	11.56	R	R	1145	1
12.30	-3.19	146.01	249	9	11.55	R	R	1143	1
12.20	-6.42	155.00	250	9	11.54	R	R	1142	1
12.10	-9.29	167.20	272	9	11.53	R	R	1143	1
12.00	-10.24	165.10	371	8	11.52	R	R	1146	1
11.99	-10.09	167.39	1325	1	11.51	R	R	1152	1
11.90	-4.81	169.81	1535	1	11.50	R	R	1161	1
11.91	-4.57	172.30	1540	1	11.49	R	R	1174	1
11.90	-4.17	175.10	1561	1	11.48	R	R	1194	1
11.95	-4.57	177.99	1570	1	11.47	P	R	1220	1
11.94	-4.05	201.09	1592	1	11.46	R	R	1249	1
11.95	-7.29	204.42	1409	1	11.45	R	R	1277	1
11.92	-6.30	208.05	1420	1	11.44	R	R	1306	1
11.91	-5.30	211.95	1449	1	11.43	R	R	1335	1
11.90	-4.02	216.20	1472	1	11.42	R	R	1364	1
11.89	-2.54	221.07	1499	1	11.41	R	R	1395	1
11.80	-0.85	226.50	1520	1	11.40	R	R	1430	1
11.81	1.00	232.70	1565	1	11.39	R	R	1472	1
11.80	3.04	240.20	1604	1	11.38	-2.93	210.42	2529	1
11.85	5.02	249.52	1650	1	11.37	-6.69	223.58	2510	1
11.84	6.25	261.65	1724	1	11.36	-12.68	252.67	2600	1
11.85	4.89	278.70	1825	1	11.35	R	R	2970	1
11.82	-5.10	307.40	2004	1	11.34	R	R	2283	1
11.81	R	R	2471	1	11.33	R	R	2203	1
11.80	R	R	1632	1	11.32	R	R	2628	1
11.79	R	R	1731	1	11.31	-4.49	281.99	2959	1
11.70	R	R	1611	1	11.30	R	R	1803	1
11.71	-2.92	302.01	3297	1	11.29	R	R	1754	1
11.70	R	R	2285	1	11.28	R	R	1737	1
11.75	-16.28	304.60	2539	1	11.27	R	R	1728	1
11.74	-9.72	262.10	2440	1	11.26	R	R	1727	1
11.75	R	R	2662	1	11.25	R	R	1734	1
11.72	R	R	1551	1	11.24	R	R	1748	1
11.71	R	R	1310	1	11.23	R	R	1770	1
11.70	R	R	1290	1	11.22	R	R	1803	1



RIO DE JANEIRO, BRAZIL (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 22.90 S

GEOGRAPHIC LONGITUDE = 316.78 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
11.21	K	K	1847	1	10.97	R	R	801	1
11.20	K	K	1914	1	10.96	R	R	797	1
11.19	10.80	504.15	4131	1	10.95	R	R	793	1
11.18	K	K	2879	1	10.94	K	R	790	1
11.17	K	K	3459	1	10.89	R	R	774	1
11.16	K	K	2345	1	10.84	K	R	760	1
11.15	2.71	374.31	2852	1	10.79	R	R	746	1
11.14	K	K	894	1	10.74	R	R	734	1
11.13	K	K	882	1	10.69	R	R	723	1
11.12	K	K	874	1	10.64	R	R	712	1
11.11	K	K	867	1	10.59	R	R	702	1
11.10	K	K	860	1	10.54	R	R	693	1
11.09	K	K	854	1	10.49	R	R	684	1
11.08	K	K	849	1	10.44	R	R	675	1
11.07	K	K	843	1	10.39	R	R	667	1
11.06	K	K	838	1	10.34	R	R	659	1
11.05	K	K	834	1	10.29	R	R	652	1
11.04	K	K	829	1	10.24	R	R	645	1
11.03	K	K	824	1	10.19	R	R	638	1
11.02	K	K	820	1	10.14	R	R	631	1
11.01	K	K	816	1	10.09	R	R	626	1
11.00	K	K	812	1	10.04	R	R	620	1
10.99	K	K	808	1	9.99	R	R	614	1
10.98	K	K	804	1	9.94	R	R	608	1
					9.89	R	R	602	1

C140

## RIO GALLEGOS, ARGENTINA

GEOGRAPHIC LATITUDE = 51.63 S

GEOGRAPHIC LONGITUDE = 290.78 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-11.17	-6.53	110	10	7.46	-2.06	294.21	2983	1
19.00	-7.77	-5.17	111	10	7.45	R	R	3471	1
18.00	-3.97	-3.67	112	10	7.44	-14.57	382.89	3155	1
17.00	.27	-1.96	114	10	7.43	-13.34	350.08	3863	1
16.00	5.02	.03	115	10	7.42	13.04	428.37	4492	1
15.00	10.32	2.64	118	10	7.41	-.07	297.96	2520	1
14.00	16.14	6.14	121	10	7.40	-12.47	229.46	2250	1
13.00	22.29	11.25	175	9	7.39	-4.01	211.28	2184	1
12.00	28.12	19.33	182	9	7.38	2.12	209.42	2173	1
11.00	31.68	32.32	246	8	7.37	3.41	220.09	2208	1
10.00	28.49	51.37	317	7	7.36	-9.59	247.82	2322	1
9.00	12.19	75.12	347	7	7.35	R	R	2799	1
8.90	9.70	77.93	414	6	7.34	-10.66	288.59	3016	1
8.80	7.09	80.92	419	6	7.33	-10.40	342.67	3760	1
8.70	4.37	84.10	425	6	7.32	-1.93	265.78	2911	1
8.60	1.57	87.71	432	6	7.31	-22.39	320.29	3640	1
8.50	-1.25	91.65	438	6	7.30	R	R	3053	1
8.40	-4.03	96.13	446	6	7.29	-12.07	225.09	2471	1
8.30	-6.65	101.30	455	6	7.28	-3.13	217.69	2453	1
8.20	-8.94	107.37	464	6	7.27	-23.00	269.16	2693	1
8.10	-10.61	114.62	476	6	7.26	-23.85	614.19	7605	1
8.00	-11.24	123.39	489	6	7.25	3.58	351.21	4578	1
7.90	-10.10	134.19	507	6	7.24	6.57	404.54	4752	1
7.80	-6.04	147.80	529	6	7.23	R	R	1619	1
7.70	2.79	166.63	563	6	7.22	R	R	1575	1
7.69	4.01	159.03	1399	1	7.21	R	R	1536	1
7.68	5.31	171.61	1411	1	7.20	R	R	1493	1
7.67	6.66	174.37	1423	1	7.19	R	R	1430	1
7.66	8.07	177.35	436	1	7.18	R	R	1372	1
7.65	9.52	180.59	1451	1	7.17	R	R	1348	1
7.64	10.99	184.15	1466	1	7.16	R	R	1333	1
7.63	12.46	188.09	1483	1	7.15	R	R	1321	1
7.62	13.86	192.50	1501	1	7.14	R	R	1311	1
7.61	15.13	197.49	1522	1	7.13	R	R	1303	1
7.60	16.13	203.22	1546	1	7.12	R	R	1295	1
7.59	16.66	209.86	1573	1	7.11	R	R	1298	1
7.58	16.36	217.65	1605	1	7.10	R	R	1282	1
7.57	14.66	226.89	1645	1	7.09	R	R	1277	1
7.56	10.54	238.01	1695	1	7.08	R	R	1272	1
7.55	2.07	252.03	1765	1	7.07	R	R	1267	1
7.54	-14.58	273.71	1881	1	7.06	R	R	1262	1
7.53	-9.11	300.62	2264	1	7.05	R	R	1258	1
7.52	-6.81	321.96	3039	1	7.04	R	R	1254	1
7.51	R	R	3057	1	7.03	R	R	1250	1
7.50	R	R	2038	1	7.02	R	R	1247	1
7.49	R	R	1872	1	7.01	R	R	1243	1
7.48	R	R	1835	1	7.00	R	R	1240	1
7.47	R	R	1837	1	6.99	R	R	1236	1

RIO GALLEGOS, ARGENTINA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 51.63 S

GEOGRAPHIC LONGITUDE = 290.78 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
6.96	K	K	1234	1	6.50	R	R	1199	1
6.97	K	K	1231	1	6.49	R	R	1199	1
6.96	K	K	1228	1	6.48	R	R	1200	1
6.95	K	K	1225	1	6.47	R	R	1200	1
6.94	K	K	1223	1	6.46	R	R	1202	1
6.93	K	K	1221	1	6.45	R	R	1203	1
6.92	K	R	1219	1	6.44	R	R	1204	1
6.91	K	R	1217	1	6.43	R	R	1206	1
6.90	K	K	1215	1	6.42	R	R	1208	1
6.89	K	K	1213	1	6.41	R	R	1210	1
6.88	K	K	1211	1	6.40	R	R	1213	1
6.87	K	K	1209	1	6.39	R	R	1216	1
6.86	K	K	1208	1	6.38	R	R	1220	1
6.85	K	R	1207	1	6.37	R	R	1224	1
6.84	K	K	1206	1	6.36	R	R	1231	1
6.83	K	R	1205	1	6.35	R	R	1241	1
6.82	K	R	1203	1	6.34	R	R	5078	1
6.81	K	K	1202	1	6.33	R	R	7332	1
6.80	K	K	1201	1	6.32	R	R	5995	1
6.79	K	K	1201	1	6.31	R	R	2941	1
6.78	K	K	1200	1	6.30	R	R	7596	1
6.77	K	K	1200	1	6.29	F	F	15001	1
6.76	K	K	1196	1	6.28	R	R	2789	1
6.75	K	R	1196	1	6.27	R	R	5373	1
6.74	K	R	1196	1	6.26	R	R	4504	1
6.73	K	K	1197	1	6.25	R	R	3935	1
6.72	K	R	1197	1	6.24	R	R	2104	1
6.71	K	K	1196	1	6.23	R	R	2050	1
6.70	K	R	1197	1	6.22	R	R	2039	1
6.69	K	K	1197	1	6.21	R	R	2056	1
6.68	K	R	1196	1	6.20	R	R	2094	1
6.67	K	K	1196	1	6.19	R	R	2169	1
6.66	K	K	1196	1	6.18	R	R	8077	1
6.65	K	R	1196	1	6.17	R	R	5173	1
6.64	K	K	1196	1	6.16	R	R	3424	1
6.63	K	K	1196	1	6.15	R	R	2627	1
6.62	K	R	1196	1	6.14	R	R	4205	1
6.61	K	K	1196	1	6.13	R	R	3555	1
6.60	K	R	1196	1	6.12	R	R	3958	1
6.59	K	R	1196	1	6.11	R	R	2714	1
6.58	K	R	1197	1	6.10	R	R	3440	1
6.57	R	K	1196	1	6.09	R	K	3343	1
6.56	K	K	1197	1	6.08	R	R	3819	1
6.55	K	K	1197	1	6.07	R	R	4199	1
6.54	K	K	1197	1	6.06	R	R	4827	1
6.53	K	K	1197	1	6.05	R	R	6314	1
6.52	K	K	1196	1	6.04	3.91	596.96	8092	1
6.51	K	K	1196	1	6.03	R	R	2156	1

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RIO GALLEGOS, ARGENTINA (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 51.63 S

GEOGRAPHIC LONGITUDE = 290.78 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
6.02	R	H	2115	1	5.74	R	R	1765	1
6.01	R	H	2085	1	5.73	R	R	1731	1
6.00	H	R	2065	1	5.72	R	R	1607	1
5.99	R	H	2056	1	5.71	R	R	1595	1
5.98	H	R	2254	1	5.70	R	R	1591	1
5.97	R	R	4182	1	5.65	R	R	1600	1
5.96	H	R	6506	1	5.60	R	R	1819	1
5.95	H	H	2843	1	5.55	R	R	3426	1
5.94	H	R	5655	1	5.50	R	R	7683	1
5.93	H	R	7099	1	5.45	R	R	7818	1
5.92	H	R	7670	1	5.40	R	R	8962	1
5.91	H	R	2562	1	5.35	R	R	8525	1
5.90	H	H	4258	1	5.30	R	R	4872	1
5.89	H	H	6125	1	5.25	R	R	3171	1
5.88	H	R	3150	1	5.20	R	R	2616	1
5.87	H	H	6327	1	5.15	R	R	1487	1
5.86	H	R	4129	1	5.10	R	R	1431	1
5.85	R	H	2411	1	5.05	R	R	1412	1
5.84	H	R	2467	1	5.00	R	R	2388	1
5.83	H	R	6636	1	4.95	R	R	2190	1
5.82	H	R	6850	1	4.94	R	R	1425	4
5.81	R	R	4624	1	4.90	F	F	15001	1
5.80	H	R	3315	1	4.85	R	R	8414	1
5.79	H	R	11114	1	4.80	R	R	5242	1
5.78	R	R	8140	1	4.75	R	R	5778	1
5.77	R	R	3489	1	4.70	R	R	1566	1
5.76	H	R	6037	1	4.65	R	R	1487	1
5.75	H	R	1811	1	3.81	R	R	572	3

## ROME, ITALY

GEOGRAPHIC LATITUDE = 41.90 N

GEOGRAPHIC LONGITUDE = 12.52 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	5.65	73.79	110	10	0.38	R	R	2954	1
19.00	7.84	75.75	112	10	0.37	R	R	4380	1
18.00	-0.05	78.02	113	10	0.36	R	R	2266	1
17.00	-3.14	80.61	114	10	0.35	R	R	3514	1
16.00	-6.45	83.68	116	10	0.34	-0.01	349.39	2188	1
15.00	-9.75	87.39	118	10	0.33	-0.47	335.54	2138	1
14.00	-12.76	92.01	120	10	0.32	6.57	385.08	2326	1
13.00	-15.16	97.85	174	9	0.31	4.04	409.23	3024	1
12.00	-16.10	105.15	178	9	0.30	R	R	2252	1
11.00	-14.78	113.90	238	8	0.29	R	R	3391	1
10.00	-9.91	124.21	300	7	0.28	R	R	4699	1
9.00	-1.35	136.20	315	7	0.27	R	R	2428	1
8.00	9.57	153.75	389	6	0.26	-0.86	622.80	4676	1
7.90	10.60	156.17	392	6	0.25	3.28	518.21	4251	1
7.80	11.72	158.60	395	6	0.24	3.20	528.86	4942	1
7.70	12.75	161.67	398	6	0.23	R	R	2965	1
7.60	13.75	164.84	402	6	0.22	R	R	4812	1
7.50	14.64	168.34	486	5	0.21	R	R	5570	1
7.40	15.46	172.24	491	5	0.20	R	R	6255	1
7.30	16.14	176.64	497	5	0.19	R	R	1380	1
7.20	16.62	181.65	505	5	0.18	R	R	1355	1
7.10	16.80	187.30	511	5	0.17	R	R	1341	1
7.00	16.52	194.11	521	5	0.16	R	R	1331	1
6.90	15.51	202.04	535	5	0.15	R	R	1323	1
6.80	13.27	211.80	547	5	0.14	R	R	1320	1
6.70	8.70	224.15	568	5	0.13	R	R	1323	1
6.60	-0.15	241.25	600	5	0.12	R	R	1313	1
6.50	-1.42	243.41	1230	1	0.11	R	R	1304	1
6.50	-2.82	245.74	1234	1	0.10	R	R	1295	1
6.50	-4.35	248.25	1244	1	0.09	R	R	1288	1
6.50	-5.95	250.91	1254	1	0.08	R	R	1282	1
6.50	-7.70	253.82	1271	1	0.07	R	R	1278	1
6.50	-9.58	257.01	1285	1	0.06	R	R	1274	1
6.50	-11.60	260.50	1297	1	0.05	R	R	1272	1
6.50	-13.70	264.50	1315	1	0.04	R	R	1272	1
6.50	-16.04	269.14	1330	1	0.03	R	R	1273	1
6.50	-18.41	274.51	1350	1	0.02	R	R	1281	1
6.40	-20.77	280.90	1375	1	0.01	R	R	1327	1
6.40	-22.94	288.94	1400	1	0.00	R	R	1373	1
6.40	-24.48	299.15	1434	1	0.99	R	R	1402	1
6.40	-26.38	312.61	1478	1	0.98	R	R	1443	1
6.40	-28.21	331.14	1542	1	0.97	7.38	1142.03	11426	1
6.40	-4.91	359.82	1654	1	0.96	R	R	14578	1
6.40	R	R	4564	1	0.95	R	R	6768	1
6.40	R	R	5245	1	0.94	R	R	8324	1
6.40	R	R	1765	1	0.93	R	R	5695	1
6.40	R	R	1677	1	0.92	R	R	8619	1
6.30	21.37	458.50	3616	1	0.91	R	R	3827	1

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ROME, ITALY (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 41.90 N

GEOGRAPHIC LONGITUDE = 12.52 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
5.90	K	K	2405	1	5.63	R	R	1658	1
5.89	K	K	3439	1	5.62	R	R	1671	1
5.80	K	K	5774	1	5.61	R	R	1692	1
5.87	-8.80	508.07	6524	1	5.60	R	R	1723	1
5.86	6.72	508.81	6210	1	5.59	R	R	1896	1
5.85	K	K	4070	1	5.58	R	R	4493	1
5.84	K	K	4769	1	5.57	R	R	3910	1
5.83	K	K	2034	1	5.52	R	R	4817	1
5.82	K	K	2974	1	5.47	F	F	15001	1
5.81	K	K	7100	1	5.42	R	R	3265	1
5.80	K	K	5017	1	5.37	R	R	10541	1
5.79	K	K	8010	1	5.32	R	R	1610	1
5.78	17.84	407.17	4755	1	5.27	R	R	1509	1
5.77	K	K	2145	1	5.22	R	R	1554	1
5.76	K	K	2085	1	5.17	R	R	5134	1
5.75	K	K	3075	1	5.12	R	R	3085	1
5.74	K	K	2910	1	5.07	R	R	9041	1
5.73	K	K	2530	1	5.02	R	R	12204	1
5.72	K	K	3215	1	4.97	R	R	5292	1
5.71	K	K	2470	1	4.92	R	R	1633	1
5.70	K	K	5122	1	4.87	R	R	3640	1
5.69	K	K	3380	1	4.82	R	R	9350	1
5.68	K	K	4017	1	4.77	R	R	3018	1
5.67	K	K	1789	1	4.72	R	R	1797	1
5.66	K	K	1710	1	4.67	R	R	2467	1
5.65	K	K	1070	1	4.62	R	R	8527	1
5.64	K	K	1054	1	4.57	R	R	2130	1
					4.52	R	R	875	1

## SACRAMENTO PEAK, UNITED STATES

GEOGRAPHIC LATITUDE = 32.72 N

GEOGRAPHIC LONGITUDE = 254.25 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-11.01	300.12	110	10	5.12	R	R	1410	1
19.00	-13.70	301.51	110	10	5.11	R	R	1396	1
18.00	-16.59	303.07	111	10	5.10	R	R	1388	1
17.00	-19.60	304.80	113	10	5.09	R	R	1365	1
16.00	-22.87	307.00	114	10	5.08	R	R	1391	1
15.00	-26.13	309.55	115	10	5.07	R	R	1408	1
14.00	-29.31	312.71	117	10	5.06	R	R	1436	1
13.00	-32.13	316.65	166	9	5.05	R	R	1470	1
12.00	-34.20	321.47	171	9	5.04	R	R	1512	1
11.00	-34.97	327.19	226	8	5.03	5.89	502.63	5622	1
10.00	-33.93	333.44	276	7	5.02	R	R	5206	1
9.00	-30.82	340.02	283	7	5.01	9.38	421.73	5025	1
8.00	-25.82	347.82	334	6	5.00	R	R	5178	1
7.00	-18.43	.60	418	5	4.99	7.90	738.53	7848	1
6.90	-17.40	2.54	421	5	4.98	R	R	3728	1
6.80	-16.29	4.55	423	5	4.97	4.61	390.76	4383	1
6.70	-15.05	6.73	425	5	4.96	R	R	6632	1
6.60	-13.67	9.10	426	5	4.95	R	R	4607	1
6.50	-12.10	11.60	432	5	4.94	R	R	3138	1
6.40	-10.31	14.47	435	5	4.93	R	R	8531	1
6.30	-8.25	17.55	440	5	4.92	R	R	7467	1
6.20	-5.85	20.91	444	5	4.91	16.54	450.73	3636	1
6.10	-3.03	24.65	451	5	4.90	-8.66	349.20	3327	1
6.00	.30	28.85	629	4	4.89	R	R	5984	1
5.90	4.20	33.64	639	4	4.88	R	R	2317	1
5.80	8.97	39.34	653	4	4.87	-2.63	385.46	4375	1
5.70	14.52	46.47	671	4	4.86	R	R	2834	1
5.60	20.82	56.14	694	4	4.85	-15.80	671.71	6857	1
5.50	26.97	70.80	725	4	4.84	R	R	8550	1
5.40	26.30	76.82	774	4	4.83	.47	544.66	6108	1
5.30	2.87	141.01	883	4	4.82	-18.05	1096.98	13009	1
5.20	-3.60	149.22	1366	1	4.81	R	R	1797	1
5.20	-10.80	160.70	1414	1	4.80	R	R	1773	1
5.21	-16.57	179.80	1484	1	4.79	R	R	1774	1
5.20	-24.24	218.01	1621	1	4.78	R	R	1790	1
5.25	11.30	441.70	475	1	4.77	R	R	1815	1
5.24	-15.31	334.34	3342	1	4.76	R	R	1852	1
5.23	-30.45	293.30	2723	1	4.75	R	R	1895	1
5.22	-5.33	321.51	3103	1	4.74	R	R	1955	1
5.21	9.07	156.30	1997	1	4.73	R	R	13498	1
5.20	-5.54	160.04	2074	1	4.72	R	R	4775	1
5.19	-17.90	308.64	3694	1	4.71	-9.98	684.23	9289	1
5.18	8.80	160.45	2244	1	4.70	-2.98	562.10	4502	1
5.17	-2.64	308.90	3753	1	4.69	R	R	7966	1
5.16	15.21	213.30	2615	1	4.68	R	R	2534	1
5.15	-5.90	242.25	3790	1	4.67	R	R	8116	1
5.14	N	N	1451	1	4.66	R	R	9462	1
5.13	N	N	1429	1	4.65	R	R	3305	1

SACRAMENTO PEAK, UNITED STATES

(CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 32.72 N

GEOGRAPHIC LONGITUDE = 254.25 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.64	F	F	15001	1
4.63	K	K	6777	1
4.62	F	F	15001	1
4.61	-6.70	735.52	9061	1
4.60	K	K	3341	1
4.59	K	K	3317	1
4.58	K	K	3417	1
4.57	-1.80	634.75	7769	1
4.56	-2.74	901.25	8922	1
4.55	K	K	5072	1
4.54	K	K	7780	1
4.53	-6.85	605.07	6059	1
4.52	K	K	5729	1
4.51	-17.25	636.75	8008	1
4.50	K	K	6061	1
4.49	K	K	2501	1
4.48	K	K	2532	1
4.47	K	K	11700	1
4.46	K	K	5946	1
4.45	K	K	7255	1
4.44	F	F	15001	1
4.43	K	K	4837	1
4.42	K	K	14955	1
4.41	K	K	5120	1
4.40	K	K	5237	1
4.39	K	K	3557	1
4.38	K	K	9295	1
4.37	K	K	7315	1
4.36	K	K	4525	1

P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.35	F	F	15001	1
4.34	R	R	1898	1
4.33	R	R	1840	1
4.32	R	R	1789	1
4.31	R	R	1712	1
4.30	R	R	1684	1
4.29	R	R	1666	1
4.28	R	R	1652	1
4.23	R	R	1609	1
4.18	R	R	1592	1
4.13	R	R	1597	1
4.08	R	R	1616	1
4.03	R	R	5962	1
3.98	R	R	2466	1
3.93	R	R	2390	1
3.88	R	R	4855	1
3.83	R	R	3665	1
3.78	R	R	2376	1
3.73	R	R	12113	1
3.68	R	R	7780	1
3.63	R	R	6129	1
3.58	R	R	8076	1
3.53	R	R	13415	1
3.48	R	R	1773	1
3.43	R	R	1763	1
3.38	F	F	15001	1
3.33	F	F	15001	1
3.28	R	R	1725	1
3.23	R	R	8833	1
3.19	R	R	2618	2



## SANAE, ANTARCTICA

GEOGRAPHIC LATITUDE = 70.46 S

GEOGRAPHIC LONGITUDE = 357.51 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-51.35	22.84	100	10	1.04	7.50	859.09	9148	1
19.00	-24.57	21.99	100	10	1.03	9.00	809.32	5924	1
18.00	-27.70	21.02	107	10	1.02	-2.08	512.96	3630	1
17.00	-25.77	19.87	107	10	1.01	8.02	845.10	8361	1
16.00	-23.77	18.50	108	10	1.00	14.69	481.77	5067	1
15.00	-21.78	17.05	108	10	0.99	R	R	12259	1
14.00	-19.85	15.35	109	10	0.98	R	R	2265	1
13.00	-18.00	13.44	155	9	0.97	F	F	15001	1
12.00	-16.58	11.39	156	9	0.96	F	F	15001	1
11.00	-15.62	9.30	205	8	0.95	F	F	15001	1
10.00	-15.40	7.40	247	7	0.94	F	F	15001	1
9.00	-15.05	6.40	240	7	0.93	F	F	15001	1
8.00	-17.17	7.01	292	6	0.92	F	F	15001	1
7.00	-17.07	10.27	351	5	0.91	F	F	15001	1
6.00	-12.02	15.32	555	5	0.90	F	F	15001	1
5.00	-5.59	17.37	496	4	0.89	F	F	15001	1
4.00	4.41	15.85	585	3	0.88	F	F	15001	1
3.00	15.32	26.80	602	3	0.87	F	F	15001	1
2.00	28.40	49.40	726	2	0.86	F	F	15001	1
1.90	27.52	51.71	736	2	0.85	F	F	15001	1
1.80	27.41	55.90	749	2	0.84	F	F	15001	1
1.70	29.11	65.99	768	2	0.83	F	F	15001	1
1.60	27.59	77.72	794	2	0.82	R	R	14977	1
1.50	24.08	83.34	965	1	0.81	F	F	15001	1
1.40	20.41	96.62	1005	1	0.80	F	F	15001	1
1.30	5.45	118.51	1084	1	0.79	F	F	15001	1
1.20	-4.60	139.56	1165	1	0.78	F	F	15001	1
1.15	-6.72	145.14	1185	1	0.69	F	F	15001	1
1.10	-9.04	152.47	1206	1	0.64	R	R	3486	1
1.17	-11.02	162.24	1235	1	0.59	F	F	15001	1
1.10	-11.30	175.60	1274	1	0.54	R	R	4078	1
1.15	-7.55	194.69	1330	1	0.49	F	F	15001	1
1.14	4.35	225.60	1424	1	0.44	R	R	7768	1
1.15	-17.92	730.11	6105	1	0.40	R	R	3060	1
1.12	-1.01	452.20	2946	1	0.39	R	R	14019	1
1.11	-16.04	315.14	2441	1	0.35	F	F	15001	1
1.10	12.01	446.81	3747	1	0.30	R	R	3583	1
1.09	-2.08	487.00	5102	1	0.25	R	R	4270	1
1.00	-2.99	405.00	5542	1	0.20	R	R	5293	1
1.07	-0.05	601.05	7715	1	0.15	R	R	6989	1
1.00	N	N	1040	1	0.10	R	R	10397	1
1.05	N	N	1401	1	0.05	F	F	15001	1

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## SHEPHERD BAY, CANADA

GEOGRAPHIC LATITUDE = 68.82 N

GEOGRAPHIC LONGITUDE = 266.57 E

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
20.00	60.36	-75.90	102	10	1.50	40.23	-81.79	778	1
19.00	59.87	-75.97	102	10	1.40	39.38	-81.68	794	1
18.00	59.35	-76.12	102	10	1.30	38.72	-81.97	813	1
17.00	58.80	-76.34	102	10	1.20	37.73	-81.90	838	1
16.00	58.23	-76.66	102	10	1.10	36.93	-81.98	867	1
15.00	57.66	-77.07	102	10	1.00	35.89	-82.16	905	1
14.00	57.08	-77.58	102	10	0.90	34.70	-82.28	953	1
13.00	56.53	-78.18	145	9	0.80	33.25	-82.33	1017	1
12.00	56.02	-78.84	145	9	0.70	31.70	-82.59	1104	1
11.00	55.58	-79.52	189	8	0.60	29.78	-82.69	1226	1
10.00	55.21	-80.07	230	7	0.50	27.41	-82.93	1405	1
9.00	54.88	-80.34	231	7	0.40	24.37	-83.30	1686	1
8.00	54.42	-80.15	273	6	0.30	20.24	-83.68	2173	1
7.00	53.52	-79.62	327	5	0.20	14.05	-84.43	3181	1
6.00	51.98	-79.53	328	5	0.10	2.54	-86.23	6279	1
5.00	50.46	-80.58	452	4	0.09	.75	-86.58	6974	1
4.00	49.19	-80.49	521	3	0.08	-1.29	-87.01	7843	1
3.00	46.69	-81.19	532	3	0.07	-3.54	-87.53	8962	1
2.00	42.86	-81.28	617	2	0.06	-6.20	-88.19	458	1
1.90	42.37	-81.59	622	2	0.05	-9.31	-89.03	2554	1
1.80	42.04	-81.65	629	2	0.04	F	F	15001	1
1.70	41.44	-81.44	638	2	0.03	F	F	15001	1
1.60	40.64	-81.68	647	2	0.02	F	F	15001	1

## SOUTH POLE, ANTARCTICA

GEOGRAPHIC LATITUDE = 89.98 S

GEOGRAPHIC LONGITUDE = 0.00 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-63.25	6.14	104	10	0.60	-16.67	-16.62	1279	1
19.00	-62.41	4.15	104	10	0.50	-11.85	-15.51	1470	1
18.00	-61.56	1.90	104	10	0.40	-5.34	-13.12	1771	1
17.00	-60.71	-.34	104	10	0.30	3.95	-9.54	2296	1
16.00	-60.02	-2.45	104	10	0.29	5.08	-8.91	2370	1
15.00	-59.35	-5.61	105	10	0.28	6.18	-8.15	2450	1
14.00	-58.85	-8.45	105	10	0.27	7.44	-7.23	2536	1
13.00	-58.55	-11.32	148	9	0.26	9.23	-6.19	2631	1
12.00	-58.55	-14.00	148	9	0.25	10.57	-5.44	2732	1
11.00	-58.90	-16.34	194	8	0.24	12.05	-4.08	2843	1
10.00	-59.64	-17.71	235	7	0.23	13.59	-2.92	2964	1
9.00	-60.45	-17.20	236	7	0.22	15.64	-1.28	3098	1
8.00	-60.46	-14.34	276	6	0.21	17.52	.59	3244	1
7.00	-58.35	-10.94	333	5	0.20	19.31	2.73	3408	1
6.00	-54.06	-11.95	335	5	0.19	21.04	5.28	3587	1
5.00	-51.91	-17.67	464	4	0.18	23.48	8.68	3794	1
4.00	-51.74	-15.11	535	3	0.17	25.69	12.84	4025	1
3.00	-47.28	-18.50	548	3	0.16	27.49	17.78	4287	1
2.00	-40.28	-16.85	636	2	0.15	29.48	25.02	4595	1
1.90	-39.05	-18.26	645	2	0.14	30.32	34.01	4953	1
1.80	-39.35	-18.81	650	2	0.13	29.30	47.15	5389	1
1.70	-38.67	-17.34	658	2	0.12	22.62	66.71	5953	1
1.60	-38.20	-17.72	664	2	0.11	-3.51	101.99	6866	1
1.50	-36.20	-18.70	804	1	0.10	F	F	15001	1
1.40	-34.68	-17.26	821	1	0.09	F	F	15001	1
1.30	-33.25	-18.72	843	1	0.08	F	F	15001	1
1.20	-31.54	-17.40	867	1	0.07	F	F	15001	1
1.10	-30.71	-17.92	894	1	0.06	F	F	15001	1
1.00	-28.38	-18.30	934	1	0.05	F	F	15001	1
0.90	-26.10	-18.10	990	1	0.04	F	F	15001	1
0.80	-23.88	-17.20	1054	1	0.03	F	F	15001	1
0.70	-20.00	-17.24	1150	1	0.02	F	F	15001	1
					0.01	F	F	15001	1

## SULPHUR MOUNTAIN, CANADA

GEOGRAPHIC LATITUDE = 51.20 N

GEOGRAPHIC LONGITUDE = 244.39 E

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS
15.00	11.85	-94.24	100	10	1.12	F	F	15001	1
14.00	10.20	-94.89	100	10	1.11	-13.39	300.36	3445	1
13.00	8.85	-95.50	150	9	1.10	F	F	15001	1
12.00	7.65	-96.14	151	9	1.09	-14.28	320.65	3827	1
11.00	6.60	-96.52	197	8	1.08	R	R	2114	1
10.00	5.90	-96.45	240	7	1.07	F	F	15001	1
9.00	5.24	-95.54	240	7	1.06	F	F	15001	1
8.00	3.71	-93.47	284	6	1.05	F	F	15001	1
7.00	-0.03	-90.44	342	5	1.04	R	R	2617	1
6.00	-6.89	-87.80	347	5	1.03	F	F	15001	1
5.00	-13.30	-86.70	485	4	1.02	F	F	15001	1
4.00	-16.61	-81.74	565	3	1.01	F	F	15001	1
3.00	-27.35	-70.24	590	3	1.00	R	R	13891	1
2.90	-27.44	-68.92	651	2	0.99	R	R	2077	1
2.80	-27.81	-66.94	654	2	0.98	R	R	2292	1
2.70	-28.60	-64.35	558	2	0.97	R	R	9836	1
2.60	-29.94	-60.80	665	2	0.96	F	F	15001	1
2.50	-31.51	-56.87	670	2	0.95	R	R	9470	1
2.40	-32.65	-52.82	678	2	0.94	F	F	15001	1
2.30	-32.80	-49.30	687	2	0.93	F	F	15001	1
2.20	-32.24	-46.45	694	2	0.92	F	F	15001	1
2.10	-31.65	-42.50	705	2	0.91	F	F	15001	1
2.00	-31.21	-36.04	714	2	0.90	R	R	14133	1
1.90	-29.74	-27.40	731	2	0.89	F	F	15001	1
1.80	-28.32	-20.50	749	2	0.88	F	F	15001	1
1.70	-27.57	-14.95	767	2	0.87	F	F	15001	1
1.60	-16.22	-4.32	795	2	0.86	R	R	2267	1
1.50	-3.40	8.62	991	1	0.85	F	F	15001	1
1.40	8.70	22.24	1040	1	0.84	R	R	4859	1
1.30	23.40	44.41	1220	1	0.83	F	F	15001	1
1.29	17.25	49.41	1271	1	0.82	R	R	7159	1
1.20	5.82	118.27	1330	1	0.81	R	R	2440	1
1.27	-4.72	152.91	1435	1	0.80	F	F	15001	1
1.20	-5.24	168.14	3705	1	0.78	F	F	15001	1
1.25	-1.35	146.31	2601	1	0.73	R	R	7122	1
1.24	0.84	153.87	1017	1	0.68	R	R	3062	1
1.25	-1.35	203.36	2372	1	0.60	F	F	15001	1
1.22	-5.35	207.60	2588	1	0.55	F	F	15001	1
1.21	-4.18	201.80	3224	1	0.50	R	R	4418	1
1.20	14.81	479.71	6465	1	0.45	F	F	15001	1
1.19	R	R	1749	1	0.40	R	R	6568	1
1.10	6.70	557.67	6805	1	0.35	R	P	3117	1
1.17	F	F	15001	1	0.30	R	R	3471	1
1.10	0.45	1112.87	10965	1	0.25	R	R	4042	1
1.15	5.50	871.17	9492	1	0.20	R	R	4996	1
1.14	R	R	7230	1	0.15	R	R	6586	1
1.15	3.80	426.35	3404	1	0.10	R	R	9802	1
					0.05	F	F	15001	1

## SVENLOVSK, U.S.S.R.

GEOGRAPHIC LATITUDE = 56.80 N

GEOGRAPHIC LONGITUDE = 60.63 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	25.47	102.17	100	10	2.42	6.14	520.30	3029	1
19.00	23.72	102.44	100	10	2.41	R	R	1410	1
18.00	21.89	102.60	100	10	2.40	R	R	1362	1
17.00	19.96	102.90	107	10	2.39	R	R	1364	1
16.00	18.02	103.00	107	10	2.38	R	R	1427	1
15.00	16.03	103.23	108	10	2.37	5.67	532.10	4661	1
14.00	14.00	103.30	100	10	2.36	1.35	1565.96	14062	1
13.00	12.20	103.50	153	9	2.35	R	R	3998	1
12.00	10.53	103.87	154	9	2.34	12.26	564.51	4833	1
11.00	9.14	104.41	201	8	2.33	2.17	404.68	2624	1
10.00	8.00	105.44	240	7	2.32	R	R	6100	1
9.00	7.11	107.30	247	7	2.31	-2.20	409.48	2573	1
8.00	5.59	110.82	293	6	2.30	-12.51	724.68	4860	1
7.00	2.00	116.53	354	5	2.29	15.26	467.57	2956	1
6.00	-5.00	124.87	362	5	2.28	2.22	402.57	2069	1
5.00	-11.51	135.82	510	4	2.27	R	R	5113	1
4.00	-11.22	150.55	611	3	2.26	R	R	2122	1
3.90	-11.29	153.24	614	3	2.25	R	R	4503	1
3.80	-11.40	156.44	610	3	2.24	2.44	742.16	5093	1
3.70	-11.49	160.22	623	3	2.23	R	R	7945	1
3.60	-11.49	164.60	629	3	2.22	F	F	15001	1
3.50	-10.95	169.82	630	3	2.21	R	R	7467	1
3.40	-9.88	175.63	647	3	2.20	-15.19	967.85	11307	1
3.30	-7.90	181.99	650	3	2.19	R	R	1800	1
3.20	-5.10	188.70	671	3	2.18	R	R	1688	1
3.10	-1.71	195.85	680	3	2.17	R	R	1715	1
3.00	1.94	203.25	772	2	2.16	F	F	15001	1
2.90	5.23	211.31	790	2	2.15	14.63	1184.01	12654	1
2.80	7.81	221.05	811	2	2.14	R	R	11374	1
2.70	9.30	235.01	840	2	2.13	R	R	8237	1
2.60	6.80	250.27	896	2	2.12	-6.46	1004.89	10802	1
2.59	5.82	264.10	1077	1	2.11	F	F	15001	1
2.50	4.40	280.33	1090	1	2.10	F	F	15001	1
2.57	2.69	273.00	1104	1	2.09	F	F	15001	1
2.50	.30	278.39	1121	1	2.08	F	F	15001	1
2.50	-2.63	284.59	1142	1	2.07	F	F	15001	1
2.54	-6.57	291.70	1167	1	2.06	R	R	2263	1
2.53	-11.00	301.33	1199	1	2.05	R	R	9119	1
2.52	-17.90	314.41	1242	1	2.04	F	F	15001	1
2.51	-23.80	336.19	1310	1	2.03	R	R	3018	1
2.50	-11.80	350.82	1460	1	2.02	F	F	15001	1
2.49	1.21	479.10	2633	1	2.01	R	R	3795	1
2.40	16.23	437.52	2790	1	2.00	R	R	13332	1
2.47	6.82	377.27	1639	1	1.99	R	R	14998	1
2.44	3.10	518.24	2749	1	1.98	R	R	5030	1
2.40	-3.30	442.21	2295	1	1.97	F	F	15001	1
2.44	14.75	506.54	3055	1	1.96	F	F	15001	1
2.43	22.81	462.50	3400	1	1.95	F	F	15001	1

SVENDELOVSK, U.S.S.R. (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 56.80 N GEOGRAPHIC LONGITUDE = 60.63 E

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
1.94	K	K	1620	1	1.46	F	F	15001	1
1.93	K	K	1663	1	1.41	F	F	15001	1
1.92	F	F	15001	1	1.36	F	F	15001	1
1.91	K	K	10748	1	1.31	F	F	8312	1
1.80	K	K	2890	1	1.26	R	R	6148	1
1.81	F	F	15001	1	1.21	R	R	7027	1
1.70	K	K	1845	1	1.16	F	F	15001	1
1.71	F	F	15001	1	1.11	F	F	15001	1
1.60	K	K	14734	1	1.06	R	R	1410	1
1.61	F	F	15001	1	1.01	R	R	6253	1
1.50	K	K	1995	1	0.96	R	R	1490	1
1.51	K	K	2212	1	0.91	R	R	1436	1

## SWARTHMORE, UNITED STATES

GEOGRAPHIC LATITUDE = 39.90 N

GEOGRAPHIC LONGITUDE = 284.65 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
15.00	1.10	-31.92	106	10	2.01	7.82	249.30	2735	1
14.00	-1.20	-31.63	109	10	2.00	R	R	1504	1
13.00	-3.67	-31.44	155	9	1.99	R	R	1450	1
12.00	-5.87	-31.34	150	9	1.98	R	R	1443	1
11.00	-7.70	-31.27	203	8	1.97	R	R	1489	1
10.00	-8.97	-31.04	246	7	1.96	1.99	341.48	4069	1
9.00	-9.59	-30.23	249	7	1.95	R	R	2943	1
8.00	-9.88	-28.13	294	6	1.94	4.95	239.52	2468	1
7.00	-11.15	-23.30	354	5	1.93	8.89	844.04	8250	1
6.00	-15.70	-14.87	360	5	1.92	4.69	457.52	3692	1
5.00	-22.14	-3.30	511	4	1.91	R	R	3512	1
4.00	-21.65	6.97	603	3	1.90	F	F	15001	1
3.90	-21.24	8.61	605	3	1.89	F	F	15001	1
3.80	-20.87	10.64	607	3	1.88	R	R	6753	1
3.70	-20.53	13.13	609	3	1.87	1.97	210.67	1929	1
3.60	-20.18	16.10	613	3	1.86	4.90	1260.72	12839	1
3.50	-19.75	19.74	617	3	1.85	R	R	14057	1
3.40	-19.09	23.85	623	3	1.84	-5.74	917.84	7441	1
3.30	-18.02	28.32	630	3	1.83	R	R	9509	1
3.20	-16.33	32.91	630	3	1.82	R	R	1814	1
3.10	-13.90	37.33	646	3	1.81	R	R	11925	1
3.00	-11.00	41.27	723	2	1.80	F	F	15001	1
2.90	-7.76	44.60	733	2	1.79	F	F	15001	1
2.80	-4.53	47.74	742	2	1.78	F	F	15001	1
2.70	-1.34	51.20	752	2	1.77	-4.19	614.18	5572	1
2.60	2.27	56.00	763	2	1.76	-2.09	1300.08	14416	1
2.50	7.41	63.60	779	2	1.75	F	F	15001	1
2.40	15.69	76.15	806	2	1.74	F	F	15001	1
2.30	26.57	99.21	860	2	1.73	R	R	4778	1
2.20	18.53	147.53	971	2	1.72	F	F	15001	1
2.19	13.79	154.12	1179	1	1.71	R	R	12735	1
2.18	7.71	161.43	1206	1	1.70	F	F	15001	1
2.17	.09	170.00	1243	1	1.69	F	F	15001	1
2.16	-9.08	181.81	1280	1	1.68	F	F	15001	1
2.15	-18.31	201.60	1354	1	1.67	F	F	15001	1
2.14	-23.53	245.77	1493	1	1.66	R	R	4028	1
2.13	-25.60	277.50	2030	1	1.65	F	F	15001	1
2.12	-29.67	337.13	2697	1	1.64	R	R	1806	1
2.11	.20	241.18	2057	1	1.63	R	R	1739	1
2.10	-3.94	300.14	2207	1	1.62	R	R	1741	1
2.09	1.70	187.70	1705	1	1.61	R	R	1839	1
2.08	6.22	204.87	1931	1	1.60	F	F	15001	1
2.07	-4.17	638.59	5355	1	1.59	R	R	8537	1
2.06	3.21	194.83	1974	1	1.58	R	R	3136	1
2.05	-1.94	204.85	2000	1	1.57	F	F	15001	1
2.04	-.49	337.27	3250	1	1.56	F	F	15001	1
2.03	2.14	449.80	4602	1	1.55	R	R	2319	1
2.02	10.51	478.83	5583	1	1.54	R	R	4647	1

SWARTHMORE, UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 39.90 N

GEOGRAPHIC LONGITUDE = 284.65 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
1.50	F	F	15001	1	1.31	F	F	15001	1
1.52	F	F	15001	1	1.30	R	R	2275	1
1.51	F	F	15001	1	1.25	F	F	15001	1
1.50	F	F	15001	1	1.20	F	F	15001	1
1.49	K	K	13379	1	1.15	F	F	15001	1
1.48	F	F	15001	1	1.10	F	F	15001	1
1.47	K	K	1495	1	1.05	R	R	13134	1
1.46	F	F	15001	1	1.00	F	F	15001	1
1.45	K	K	11089	1	0.95	F	F	15001	1
1.44	K	R	11071	1	0.90	R	R	11221	1
1.43	F	F	15001	1	0.85	F	F	15001	1
1.42	K	R	12658	1	0.80	R	R	1804	1
1.41	F	F	15001	1	0.75	R	R	1651	1
1.40	K	K	9965	1	0.70	R	R	1788	1
1.39	F	F	15001	1	0.65	R	R	1864	1
1.38	K	K	11446	1	0.60	R	R	1926	1
1.37	F	F	15001	1	0.55	R	R	2012	1
1.36	F	F	15001	1	0.50	R	R	2133	1
1.35	F	F	15001	1	0.45	R	R	2321	1
1.34	F	F	15001	1	0.40	R	R	2555	1
1.33	F	F	15001	1	0.35	R	R	2869	1
1.32	F	F	15001	1	0.30	R	R	3290	1



## SYOWA, ANTARCTICA

GEOGRAPHIC LATITUDE = 69.03 S

GEOGRAPHIC LONGITUDE = 39.60 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-34.91	46.91	104	10	0.54	6.56	141.38	1657	1
19.00	-33.72	45.84	75	10	0.53	4.81	143.58	1687	1
18.00	-32.53	44.62	105	10	0.52	1.03	149.57	1730	1
17.00	-31.36	43.26	105	10	0.51	-6.76	159.83	1796	1
16.00	-30.25	41.75	106	10	0.50	-10.36	166.27	1848	1
15.00	-29.25	40.06	106	10	0.49	-13.60	175.98	1909	1
14.00	-28.43	38.25	107	10	0.48	-15.87	206.86	2048	1
13.00	-27.90	36.32	151	9	0.47	-4.73	236.94	2197	1
12.00	-27.77	34.41	152	9	0.46	18.02	328.62	4434	1
11.00	-28.16	32.69	197	8	0.45	-24.92	300.98	3613	1
10.00	-29.12	31.59	241	7	0.44	F	F	15001	1
9.00	-30.41	31.72	241	7	0.43	-4.98	531.94	6260	1
8.00	-31.14	33.81	284	6	0.42	8.43	740.00	9963	1
7.00	-29.29	37.64	341	5	0.41	-11.48	673.90	9716	1
6.00	-22.95	40.07	343	5	0.40	F	F	15001	1
5.00	-15.72	36.98	479	4	0.39	F	F	15001	1
4.00	-16.59	35.67	555	3	0.38	F	F	15001	1
3.00	-5.49	38.05	571	3	0.37	F	F	15001	1
2.00	1.95	40.92	668	2	0.36	F	F	15001	1
1.90	3.15	42.95	675	2	0.35	F	F	15001	1
1.80	6.95	44.51	685	2	0.34	F	F	15001	1
1.70	9.68	44.21	695	2	0.33	F	F	15001	1
1.60	9.15	44.54	706	2	0.32	F	F	15001	1
1.50	11.60	47.50	851	1	0.31	F	F	15001	1
1.40	15.85	48.56	874	1	0.30	F	F	15001	1
1.30	15.65	50.14	895	1	0.29	F	F	15001	1
1.20	21.07	53.82	930	1	0.28	F	F	15001	1
1.10	21.84	55.79	964	1	0.27	F	F	15001	1
1.00	25.36	60.99	1013	1	0.26	F	F	15001	1
0.90	29.16	68.61	1077	1	0.25	F	F	15001	1
0.80	31.06	78.37	1162	1	0.24	R	R	6791	1
0.70	31.53	94.96	1282	1	0.23	F	F	15001	1
0.60	23.74	117.95	1466	1	0.22	F	F	15001	1
0.59	21.26	122.93	1496	1	0.21	F	F	15001	1
0.58	18.38	126.24	1526	1	0.20	F	F	15001	1
0.57	17.02	127.53	1549	1	0.19	F	F	15001	1
0.56	15.54	130.66	1576	1	0.18	R	R	11637	1
0.55	11.27	136.72	1615	1	0.05	F	F	15001	1

## Tbilisi, U.S.S.R.

GEOGRAPHIC LATITUDE = 42.00 N

GEOGRAPHIC LONGITUDE = 44.70 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	1.72	105.64	111	10	6.74	R	R	2593	1
19.00	-0.90	107.80	112	10	6.73	1.72	504.19	4824	1
18.00	-3.80	110.30	113	10	6.72	-4.28	405.52	3153	1
17.00	-6.75	113.29	115	10	6.71	-7.64	374.04	2822	1
16.00	-9.72	116.80	116	10	6.70	R	R	2423	1
15.00	-12.52	121.20	119	10	6.69	1.35	397.48	2559	1
14.00	-14.84	126.50	121	10	6.68	4.65	364.36	2451	1
13.00	-16.14	133.31	170	9	6.67	R	R	8645	1
12.00	-15.60	141.50	201	9	6.66	6.79	484.67	4991	1
11.00	-12.40	151.12	242	8	6.65	17.77	416.54	3840	1
10.00	-5.91	162.20	305	7	6.64	1.89	572.67	3511	1
9.00	3.50	176.50	321	7	6.63	R	R	1460	1
8.00	12.90	200.91	407	6	6.62	R	R	1441	1
7.90	13.50	204.60	412	6	6.61	R	R	1439	1
7.80	13.94	208.89	417	6	6.60	R	R	1414	1
7.70	14.11	213.60	422	6	6.59	R	R	1391	1
7.60	13.90	218.90	429	6	6.58	R	R	1370	1
7.50	13.20	225.10	520	5	6.57	R	R	1352	1
7.40	11.80	232.20	535	5	6.56	R	R	1335	1
7.30	9.29	240.70	549	5	6.55	R	R	1320	1
7.20	4.87	251.24	568	5	6.54	R	R	1306	1
7.10	-2.77	265.17	596	5	6.53	R	R	1293	1
7.00	-16.17	288.21	644	5	6.52	R	R	1281	1
6.99	-17.90	291.77	1321	1	6.51	R	R	1271	1
6.90	-19.60	295.80	1337	1	6.50	R	R	1262	1
6.97	-21.41	300.40	1354	1	6.49	R	R	1253	1
6.90	-23.00	305.74	1374	1	6.48	R	R	1245	1
6.90	-24.50	312.00	1397	1	6.47	R	R	1239	1
6.94	-25.51	319.59	1420	1	6.46	R	R	1232	1
6.90	-25.60	326.77	1450	1	6.45	R	R	1226	1
6.92	-23.97	340.00	1497	1	6.44	R	R	1221	1
6.91	-14.01	354.07	1552	1	6.43	R	R	1217	1
6.90	-7.10	372.52	617	5	6.42	R	R	1213	1
6.89	20.30	410.80	1647	1	6.41	R	R	1209	1
6.80	R	R	8631	1	6.40	R	R	1206	1
6.87	-12.19	641.50	5080	1	6.39	R	R	1203	1
6.80	R	R	1767	1	6.38	R	R	1202	1
6.80	R	R	1650	1	6.37	R	R	1201	1
6.84	R	R	1631	1	6.36	R	R	1201	1
6.80	R	R	3220	1	6.35	R	R	1202	1
6.82	R	R	2889	1	6.34	R	R	1205	1
6.81	16.41	444.50	3517	1	6.33	R	R	1209	1
6.80	27.49	444.40	3395	1	6.32	R	R	1221	1
6.79	21.71	427.91	3093	1	6.31	R	R	1348	1
6.70	-0.20	372.50	2216	1	6.30	R	R	1380	1
6.77	-5.50	309.49	2090	1	6.29	R	R	1428	1
6.70	-10.84	309.34	2090	1	6.28	R	R	4817	1
6.70	-1.20	305.80	2204	1	6.27	R	R	3044	1

TBILISI, U.S.S.R. (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 42.08 N

GEOGRAPHIC LONGITUDE = 44.70 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
6.20	K	K	3642	1	5.84	9.23	742.60	6884	1
6.25	-8.3d	502.03	5699	1	5.83	R	R	5027	1
6.24	K	K	5427	1	5.82	R	R	3374	1
6.23	K	K	3086	1	5.81	R	R	2573	1
6.22	K	K	6826	1	5.80	R	R	6555	1
6.21	P	K	4247	1	5.79	R	R	5534	1
6.20	K	K	4050	1	5.78	R	R	7905	1
6.19	K	K	4570	1	5.77	R	R	4462	1
6.18	K	K	2724	1	5.76	R	R	2452	1
6.17	K	K	5224	1	5.75	R	R	2294	1
6.16	K	K	2001	1	5.74	R	R	2351	1
6.15	K	K	2005	1	5.73	R	R	2475	1
6.14	K	K	5897	1	5.72	R	R	6227	1
6.13	K	R	3407	1	5.71	R	R	7969	1
6.12	K	K	6421	1	5.70	R	R	4214	1
6.11	K	K	2834	1	5.69	R	R	3759	1
6.10	K	R	3610	1	5.68	R	R	5799	1
6.09	K	K	3974	1	5.67	R	R	7182	1
6.08	K	K	8769	1	5.66	R	R	2291	1
6.07	K	K	2189	1	5.65	R	R	2224	1
6.06	K	K	2077	1	5.64	R	R	3147	1
6.05	K	K	2023	1	5.63	R	R	4139	1
6.04	11.49	547.03	6443	1	5.58	R	R	2596	1
6.03	K	R	4149	1	5.53	R	R	1488	1
6.02	K	K	4190	1	5.48	R	R	1433	1
6.01	K	K	4766	1	5.43	R	R	3102	1
6.00	K	K	3226	1	5.38	R	R	2634	1
5.99	K	K	2479	1	5.33	R	R	3640	1
5.98	-3.84	701.51	7551	1	5.28	R	R	4648	1
5.97	11.51	815.14	9737	1	5.23	R	R	5069	1
5.96	6.70	764.45	8926	1	5.18	R	R	4330	1
5.95	K	R	3663	1	5.13	R	R	1573	1
5.94	K	R	1728	1	5.08	R	R	2683	1
5.93	K	R	1664	1	5.03	R	R	2146	1
5.92	K	R	1680	1	4.98	R	R	9826	1
5.91	K	R	1687	1	4.93	R	R	4613	1
5.90	K	R	1689	1	4.88	R	R	1700	1
5.89	K	R	1598	1	4.83	R	R	2348	1
5.88	K	R	1612	1	4.78	R	R	3047	1
5.87	K	R	1630	1	4.73	R	R	1866	1
5.86	K	R	1686	1	4.68	F	F	15741	1
5.85	K	R	1620	1	4.63	R	R	981	1
					4.58	R	R	815	1

## TEHRAN, IRAN

GEOGRAPHIC LATITUDE = 35.67 N

GEOGRAPHIC LONGITUDE = 51.43 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-6.00	126.04	115	10	10.88	R	R	2535	1
19.00	-8.63	130.16	117	10	10.87	R	R	1880	1
18.00	-11.23	135.21	119	10	10.86	R	R	1776	1
17.00	-13.55	141.44	123	10	10.85	R	R	1722	1
16.00	-15.17	149.30	126	10	10.84	R	R	1698	1
15.00	-15.25	159.35	130	10	10.83	R	R	1692	1
14.00	-12.33	172.26	137	10	10.82	R	R	1701	1
13.00	-4.08	189.21	207	9	10.81	R	R	1725	1
12.00	10.99	216.34	233	9	10.80	-1.35	345.92	2604	1
11.90	12.53	220.53	305	8	10.79	-2.81	412.75	2884	1
11.80	13.88	225.23	311	8	10.78	-8.43	369.87	3102	1
11.70	14.31	230.04	317	8	10.77	-18.52	474.61	3771	1
11.60	15.41	236.60	325	8	10.76	3.61	378.81	2400	1
11.50	15.09	243.52	334	8	10.75	4.12	334.39	2285	1
11.40	13.49	251.44	344	8	10.74	-4.66	314.69	2214	1
11.30	9.92	260.53	358	8	10.73	-11.01	304.86	2187	1
11.20	3.34	271.14	375	8	10.72	-15.59	301.97	2185	1
11.19	2.45	272.31	1333	1	10.71	-19.78	305.48	2205	1
11.18	1.52	273.52	1340	1	10.70	-23.00	315.97	2252	1
11.17	.54	274.75	1348	1	10.69	-20.33	334.62	2337	1
11.16	-.49	276.02	1357	1	10.68	.92	362.21	2510	1
11.15	-1.58	277.33	1366	1	10.67	R	R	2903	1
11.14	-2.73	278.68	1374	1	10.66	R	R	1290	1
11.13	-3.94	280.08	1384	1	10.65	R	R	1271	1
11.12	-5.21	281.53	1394	1	10.64	R	R	1256	1
11.11	-6.54	283.04	1404	1	10.63	R	R	1244	1
11.10	-7.95	284.62	1415	1	10.62	R	R	1233	1
11.09	-9.42	286.29	1426	1	10.61	R	R	1224	1
11.08	-10.96	288.04	1438	1	10.60	R	R	1215	1
11.07	-12.58	289.92	1451	1	10.59	R	R	1206	1
11.06	-14.28	291.91	1464	1	10.58	R	R	1199	1
11.05	-16.01	294.07	1478	1	10.57	R	R	1192	1
11.04	-17.83	296.41	1493	1	10.56	R	R	1185	1
11.03	-19.78	298.98	1509	1	10.55	R	R	1179	1
11.02	-21.81	301.83	1527	1	10.54	R	R	1174	1
11.01	-23.83	305.01	1546	1	10.53	R	R	1168	1
11.00	-25.84	308.60	1566	1	10.52	R	R	1162	1
10.99	-27.86	312.71	1589	1	10.51	R	R	1157	1
10.98	-29.90	317.45	1614	1	10.50	R	R	1153	1
10.97	-30.24	322.94	1642	1	10.49	R	R	1148	1
10.96	-31.84	329.34	1675	1	10.48	R	R	1144	1
10.95	-33.98	336.77	1713	1	10.47	R	R	1140	1
10.94	-29.55	345.27	1758	1	10.46	R	R	1136	1
10.93	-25.79	354.80	1818	1	10.45	R	R	1132	1
10.92	-19.10	365.25	1887	1	10.44	R	R	1128	1
10.91	-6.83	377.01	1987	1	10.43	R	R	1125	1
10.90	14.67	424.45	2147	1	10.42	R	R	1122	1
10.89	10.87	476.73	2680	1	10.41	R	R	1118	1

TEHRAN, IRAN (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 35.67 N

GEOGRAPHIC LONGITUDE = 51.43 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
10.40	R	R	1115	1	9.92	R	R	1079	1
10.39	R	R	1112	1	9.91	R	R	1081	1
10.38	R	R	1109	1	9.90	R	R	1082	1
10.37	R	R	1107	1	9.89	R	R	1084	1
10.36	R	R	1105	1	9.88	R	R	1086	1
10.35	R	R	1102	1	9.87	R	R	1088	1
10.34	R	R	1100	1	9.86	R	R	1091	1
10.33	R	R	1097	1	9.85	R	R	1094	1
10.32	R	R	1095	1	9.84	R	R	1098	1
10.31	R	R	1094	1	9.83	R	R	1102	1
10.30	R	R	1091	1	9.82	R	R	1107	1
10.29	R	R	1090	1	9.81	R	R	1113	1
10.28	R	R	1088	1	9.80	R	R	1122	1
10.27	R	R	1086	1	9.79	R	R	1138	1
10.26	R	R	1085	1	9.78	R	R	1932	1
10.25	R	R	1083	1	9.77	R	R	1967	1
10.24	R	R	1082	1	9.76	R	R	2753	1
10.23	R	R	1081	1	9.75	R	R	3379	1
10.22	R	R	1080	1	9.74	1.90	400.44	3203	1
10.21	R	R	1079	1	9.73	R	R	2897	1
10.20	R	R	1078	1	9.72	17.72	425.34	3752	1
10.19	R	R	1077	1	9.71	R	R	2488	1
10.18	R	R	1076	1	9.70	R	R	2450	1
10.17	R	R	1075	1	9.69	R	R	2832	1
10.16	R	R	1075	1	9.68	2.09	398.95	2590	1
10.15	R	R	1074	1	9.67	.08	367.61	2426	1
10.14	R	R	1073	1	9.66	-1.96	353.52	2353	1
10.13	R	R	1073	1	9.65	-3.45	346.14	2313	1
10.12	R	R	1072	1	9.64	-4.49	342.89	2293	1
10.11	R	R	1071	1	9.63	-5.32	342.95	2289	1
10.10	R	R	1071	1	9.62	-6.23	346.32	2271	1
10.09	R	R	1071	1	9.61	-7.48	353.80	2332	1
10.08	R	R	1071	1	9.60	-8.89	367.85	2395	1
10.07	R	R	1071	1	9.59	-8.26	397.26	2541	1
10.06	R	R	1070	1	9.58	-4.58	481.33	3800	1
10.05	R	R	1071	1	9.57	R	R	2756	1
10.04	R	R	1071	1	9.56	13.56	440.65	3381	1
10.03	R	R	1071	1	9.55	R	R	2934	1
10.02	R	R	1072	1	9.54	R	R	2044	1
10.01	R	R	1072	1	9.53	R	R	1979	1
10.00	R	R	1072	1	9.52	R	R	1937	1
9.99	R	R	1073	1	9.51	R	R	1908	1
9.98	R	R	1073	1	9.50	R	R	1891	1
9.97	R	R	1074	1	9.49	R	R	1884	1
9.96	R	R	1075	1	9.48	R	R	1884	1
9.95	R	R	1075	1	9.47	R	R	1888	1
9.94	R	R	1077	1	9.46	R	R	1905	1
9.93	R	R	1076	1	9.45	R	R	1963	1

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TEHRAN, IRAN (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 35.67 N

GEOGRAPHIC LONGITUDE = 51.43 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
9.44	.56	365.26	3038	1	8.96	R	R	1494	1
9.43	R	R	2796	1	8.95	R	R	1502	1
9.42	R	R	2316	1	8.94	R	R	1511	1
9.41	R	R	2327	1	8.93	R	R	1521	1
9.40	R	R	3271	1	8.92	R	R	1536	1
9.39	19.63	441.11	3061	1	8.91	R	R	1563	1
9.38	-7.91	367.70	2684	1	8.90	R	R	1611	1
9.37	-8.83	375.60	2730	1	8.89	R	R	1648	1
9.36	R	R	2963	1	8.88	R	R	1678	1
9.35	R	R	3274	1	8.87	R	R	1704	1
9.34	R	R	4153	1	8.86	R	R	1730	1
9.33	R	R	2274	1	8.85	R	R	1757	1
9.32	R	R	2298	1	8.84	R	R	1785	1
9.31	R	R	1495	1	8.83	R	R	1815	1
9.30	R	R	1478	1	8.82	R	R	1852	1
9.29	R	R	1467	1	8.81	R	R	2655	1
9.28	R	R	1458	1	8.80	R	R	3911	1
9.27	R	R	1452	1	8.79	9.68	499.55	4144	1
9.26	R	R	1447	1	8.78	R	R	3316	1
9.25	R	R	1443	1	8.77	R	R	3037	1
9.24	R	R	1440	1	8.76	R	R	2973	1
9.23	R	R	1437	1	8.75	R	R	2840	1
9.22	R	R	1435	1	8.74	R	R	2720	1
9.21	R	R	1434	1	8.73	R	R	2700	1
9.20	R	R	1433	1	8.72	R	R	2714	1
9.19	R	R	1432	1	8.71	15.62	477.32	4370	1
9.18	R	R	1432	1	8.70	R	R	4097	1
9.17	R	R	1432	1	8.69	R	R	5261	1
9.16	R	R	1433	1	8.68	R	R	3112	1
9.15	R	R	1432	1	8.67	R	R	2317	1
9.14	R	R	1434	1	8.66	R	R	2296	1
9.13	R	R	1436	1	8.65	R	R	2286	1
9.12	R	R	1436	1	8.64	R	R	2283	1
9.11	R	R	1436	1	8.63	R	R	2283	1
9.10	R	R	1439	1	8.62	R	R	2286	1
9.09	R	R	1441	1	8.61	R	R	2290	1
9.08	R	R	1443	1	8.60	R	R	2294	1
9.07	R	R	1446	1	8.59	R	R	2300	1
9.06	R	R	1448	1	8.58	R	R	2306	1
9.05	R	R	1452	1	8.57	R	R	2312	1
9.04	R	R	1455	1	8.56	R	R	2318	1
9.03	R	R	1458	1	8.55	R	R	2324	1
9.02	R	R	1462	1	8.54	R	R	2330	1
9.01	R	R	1466	1	8.53	R	R	2334	1
9.00	R	R	1471	1	8.52	R	R	2338	1
8.99	R	R	1477	1	8.51	R	R	2342	1
8.98	R	R	1482	1	8.50	R	R	2345	1
8.97	R	R	1488	1	8.49	R	R	2348	1

TEHRAN, IRAN (CONTINUED - PAGE 4)

GEOGRAPHIC LATITUDE = 35.67 N

GEOGRAPHIC LONGITUDE = 51.43 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
8.48	H	R	2349	1	8.26	R	R	2343	1
8.47	H	R	2351	1	8.25	R	R	2376	1
8.46	H	R	2351	1	8.20	R	R	2534	1
8.45	H	R	2350	1	8.15	R	R	4408	1
8.44	H	R	2349	1	8.10	R	R	2966	1
8.43	H	R	2348	1	8.05	R	R	4826	1
8.42	H	R	2346	1	8.00	R	R	2919	1
8.41	H	R	2344	1	7.95	R	R	3138	1
8.40	H	R	2341	1	7.90	R	R	2125	1
8.39	H	R	2338	1	7.85	R	R	2016	1
8.38	H	R	2335	1	7.80	R	R	5448	1
8.37	H	R	2333	1	7.75	R	R	3603	1
8.36	H	R	2330	1	7.70	R	R	3050	1
8.35	H	R	2327	1	7.65	R	R	2324	1
8.34	H	R	2324	1	7.60	R	R	6354	1
8.33	H	R	2322	1	7.55	R	R	1524	1
8.32	H	R	2321	1	7.50	R	R	1459	1
8.31	H	R	2319	1	7.45	R	R	1406	1
8.30	H	R	2320	1	7.40	R	R	1363	1
8.29	H	R	2321	1	7.35	R	R	1327	1
8.28	H	R	2324	1	7.30	R	R	1298	1
8.27	H	R	2330	1	7.25	R	R	1274	1

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## THALE, GREENLAND

GEOGRAPHIC LATITUDE = 74.55 N

GEOGRAPHIC LONGITUDE = 291.54 E

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
20.00	74.93	-38.11	102	10	1.50	67.36	-36.81	773	1
19.00	74.56	-37.81	102	10	1.40	67.09	-35.48	790	1
18.00	74.16	-37.65	102	10	1.30	66.78	-36.33	809	1
17.00	73.74	-37.64	102	10	1.20	66.44	-35.15	832	1
16.00	73.29	-37.83	102	10	1.10	66.39	-35.31	862	1
15.00	72.84	-38.25	102	10	1.00	65.96	-35.44	899	1
14.00	72.40	-38.93	102	10	0.90	65.57	-35.11	947	1
13.00	72.00	-39.88	145	9	0.80	65.11	-34.29	1010	1
12.00	71.69	-41.08	145	9	0.70	64.50	-34.53	1096	1
11.00	71.33	-42.45	189	8	0.60	63.98	-33.99	1216	1
10.00	71.58	-43.75	230	7	0.50	63.20	-33.59	1392	1
9.00	71.89	-44.48	230	7	0.40	62.05	-33.31	1669	1
8.00	72.32	-45.79	272	6	0.30	60.84	-32.79	2149	1
7.00	72.39	-41.09	326	5	0.20	58.85	-32.81	3138	1
6.00	71.40	-38.45	327	5	0.10	55.74	-33.65	6172	1
5.00	70.21	-40.09	451	4	0.09	55.25	-33.84	6850	1
4.00	70.70	-39.51	519	3	0.08	54.81	-34.20	7699	1
3.00	69.40	-39.47	530	3	0.07	54.23	-34.43	8791	1
2.00	68.14	-36.35	614	2	0.06	53.67	-34.90	248	1
1.90	67.79	-36.98	620	2	0.05	52.94	-35.42	2291	1
1.80	67.93	-37.47	627	2	0.04	52.31	-36.11	90875	1
1.70	67.93	-36.32	635	2	0.03	F	F	15001	1
1.60	67.31	-36.10	644	2	0.02	F	F	15001	1



## TIXIE BAY, U.S.S.R.

GEOGRAPHIC LATITUDE = 71.35 N

GEOGRAPHIC LONGITUDE = 128.90 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	49.64	164.45	103	10	0.58	-3.56	359.03	1842	1
19.00	48.48	164.15	103	10	0.57	7.27	498.24	3310	1
18.00	47.27	163.75	103	10	0.56	-13.60	580.94	4080	1
17.00	46.02	163.26	103	10	0.55	-13.56	1071.99	9743	1
16.00	44.73	162.68	104	10	0.54	R	R	2886	1
15.00	43.45	161.97	104	10	0.53	R	R	10219	1
14.00	42.18	161.18	104	10	0.52	-2.95	564.27	3574	1
13.00	40.99	160.32	147	9	0.51	14.45	451.76	3029	1
12.00	39.91	159.50	148	9	0.50	F	F	32000	1
11.00	39.01	158.78	193	8	0.49	F	F	32000	1
10.00	38.25	158.40	235	7	0.48	F	F	32000	1
9.00	37.49	158.64	235	7	0.47	F	F	32000	1
8.00	36.24	159.72	278	6	0.46	F	F	32000	1
7.00	35.61	161.34	334	5	0.45	F	F	15001	1
6.00	29.12	162.12	336	5	0.44	R	R	3441	1
5.00	24.85	161.31	466	4	0.43	F	F	15001	1
4.00	21.46	163.19	539	3	0.42	F	F	15001	1
3.00	13.54	164.83	554	3	0.41	F	F	15001	1
2.00	1.40	171.51	651	2	0.40	F	F	15001	1
1.90	-0.69	172.35	659	2	0.39	R	R	3955	1
1.80	-1.88	173.18	668	2	0.38	F	F	15001	1
1.70	-3.37	174.89	678	2	0.37	F	F	15001	1
1.60	-6.25	176.93	691	2	0.36	R	R	4445	1
1.50	-8.11	178.52	833	1	0.35	F	F	15001	1
1.40	-10.34	181.39	853	1	0.34	F	F	15001	1
1.30	-13.28	184.48	879	1	0.33	F	F	15001	1
1.20	-15.79	188.77	910	1	0.32	F	F	15001	1
1.10	-18.29	193.79	948	1	0.31	R	R	5513	1
1.00	-21.16	201.60	1001	1	0.30	R	R	5539	1
0.90	-22.88	212.36	1069	1	0.28	F	F	15001	1
0.80	-27.01	227.65	1164	1	0.20	F	F	15001	1
0.70	-14.86	283.38	1318	1	0.18	R	R	7845	1
0.60	6.88	318.87	1647	1	0.10	R	R	10727	1
0.50	5.14	338.80	1716	1	0.08	F	F	15001	1

## TRIVANDRUM, INDIA

GEOGRAPHIC LATITUDE = 8.48 N

GEOGRAPHIC LONGITUDE = 76.95 E

P	ASYMPTOTIC LAT	LONG	STEP	SS	P	ASYMPTOTIC LAT	LONG	STEP	SS
20.00	-1.71	216.01	142	10	17.38	R	R	1386	1
19.00	-4.56	237.04	150	10	17.37	R	R	1348	1
18.90	-4.94	239.85	150	10	17.36	R	R	1317	1
18.80	-5.31	242.85	160	10	17.35	R	R	1289	1
18.70	-5.69	246.06	162	10	17.34	R	R	1265	1
18.60	-6.10	249.50	165	10	17.33	R	R	1243	1
18.50	-6.53	253.39	160	10	17.32	R	R	1223	1
18.40	-6.97	257.57	171	10	17.31	R	R	1205	1
18.30	-7.44	262.20	175	10	17.30	R	R	1188	1
18.20	-7.93	267.38	176	10	17.29	R	R	1172	1
18.10	-8.44	273.30	185	10	17.28	R	R	1158	1
18.00	-8.97	280.20	189	10	17.27	R	R	1144	1
17.90	-9.50	288.40	195	10	17.26	R	R	1131	1
17.80	-9.99	298.61	204	10	17.25	R	R	1119	1
17.70	-10.51	312.11	210	10	17.24	R	R	1106	1
17.60	-9.96	331.90	233	10	17.23	R	R	1095	1
17.59	-9.85	334.60	1488	1	17.18	R	R	1047	1
17.50	-9.69	337.30	1503	1	17.13	R	R	1007	1
17.51	-9.49	340.30	1520	1	17.08	R	R	973	1
17.50	-9.24	343.57	1538	1	17.03	R	R	943	1
17.50	-8.94	347.05	1556	1	17.00	R	R	143	10
17.54	-8.56	350.81	1580	1	16.98	R	R	917	1
17.55	-8.06	354.94	1603	1	16.93	R	R	894	1
17.52	-7.47	359.52	1630	1	16.88	R	R	873	1
17.51	-6.70	364.60	1660	1	16.83	R	R	853	1
17.50	-5.69	370.49	1694	1	16.78	R	R	835	1
17.49	-4.35	377.20	1735	1	16.73	R	R	818	1
17.40	-2.52	385.34	1785	1	16.68	R	R	803	1
17.41	.07	385.37	1844	1	16.63	R	R	788	1
17.40	3.97	408.75	1920	1	16.58	R	R	775	1
17.45	16.15	429.24	2050	1	16.53	R	R	762	1
17.44	16.90	476.99	2310	1	16.48	R	R	750	1
17.45	M	M	1966	1	16.43	R	R	738	1
17.42	M	M	1896	1	16.38	R	R	727	1
17.41	M	M	1869	1	16.33	R	R	717	1
17.40	M	M	1889	1	16.28	R	R	707	1
17.39	M	M	1851	1	16.23	R	R	697	1
					16.18	R	R	688	1

## TROMSØ, NORWAY

GEOGRAPHIC LATITUDE = 69.67 N

GEOGRAPHIC LONGITUDE = 18.94 E

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS
20.00	50.94	59.35	103	10	0.54	1.09	163.09	1580	1
19.00	49.90	59.11	103	10	0.53	2.62	166.05	1610	1
18.00	48.84	58.77	103	10	0.52	4.42	171.05	1647	1
17.00	47.70	58.35	104	10	0.51	7.78	176.15	1693	1
16.00	46.60	57.80	104	10	0.50	10.03	183.27	1735	1
15.00	45.60	57.15	104	10	0.49	12.20	190.88	1785	1
14.00	44.60	56.45	104	10	0.48	15.42	203.63	1856	1
13.00	43.82	55.60	147	9	0.47	15.83	213.91	1920	1
12.00	43.18	54.90	146	9	0.46	12.19	234.86	2028	1
11.00	42.74	54.50	193	8	0.45	-8.50	267.90	2209	1
10.00	42.60	54.60	235	7	0.44	-1.42	448.41	4131	1
9.00	42.40	55.70	235	7	0.43	2.94	624.96	6207	1
8.00	41.71	58.10	276	6	0.42	R	R	3593	1
7.00	39.10	61.31	334	5	0.41	-6.18	373.45	4361	1
6.00	34.30	63.10	337	5	0.40	-14.90	1005.95	10984	1
5.00	30.30	61.94	467	4	0.39	F	F	15001	1
4.00	29.00	64.70	540	3	0.38	R	R	4127	1
3.00	21.34	67.10	550	3	0.37	F	F	15001	1
2.00	12.91	74.92	650	2	0.36	F	F	15001	1
1.90	10.40	76.20	650	2	0.35	F	F	15001	1
1.80	8.90	76.50	660	2	0.34	F	F	15001	1
1.70	8.70	77.40	670	2	0.33	F	F	15001	1
1.60	6.91	79.90	687	2	0.32	F	F	15001	1
1.50	4.17	81.37	629	1	0.31	F	F	15001	1
1.40	3.72	82.74	647	1	0.30	F	F	15001	1
1.30	.54	86.10	673	1	0.29	F	F	15001	1
1.20	-.44	88.00	400	1	0.28	F	F	15001	1
1.10	-3.74	92.20	939	1	0.27	F	F	15001	1
1.00	-6.01	97.11	984	1	0.26	F	F	15001	1
0.90	-8.10	103.00	1044	1	0.25	F	F	15001	1
0.80	-10.30	111.64	1120	1	0.24	F	F	15001	1
0.70	-10.37	122.84	1240	1	0.23	F	F	15001	1
0.60	-6.97	142.30	1414	1	0.22	F	F	15001	1
0.54	-6.27	145.70	1430	1	0.21	F	F	15001	1
0.50	-4.94	149.31	1460	1	0.20	F	F	15001	1
0.51	-3.67	151.57	1484	1	0.19	F	F	15001	1
0.50	-2.80	154.10	1514	1	0.18	F	F	15001	1
0.50	-1.20	158.60	1540	1	0.09	R	R	12204	1
					0.04	F	F	15001	1

## TRUMSO, NORWAY

GEOGRAPHIC LATITUDE = 69.67 N

GEOGRAPHIC LONGITUDE = 18.94 E

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS
20.00	50.94	59.35	105	10	0.54	1.09	163.09	1580	1
19.00	49.90	59.11	105	10	0.53	2.62	166.05	1610	1
18.00	48.84	58.77	105	10	0.52	4.42	171.05	1647	1
17.00	47.76	58.35	104	10	0.51	7.78	176.15	1693	1
16.00	46.66	57.80	104	10	0.50	10.03	183.27	1735	1
15.00	45.65	57.15	104	10	0.49	12.20	190.88	1785	1
14.00	44.60	56.45	104	10	0.48	15.42	203.63	1856	1
13.00	43.82	55.60	147	9	0.47	15.83	215.91	1920	1
12.00	43.15	54.90	146	9	0.46	12.19	234.86	2028	1
11.00	42.79	54.55	195	8	0.45	-8.50	267.90	2209	1
10.00	42.65	54.65	235	7	0.44	-1.42	448.42	4131	1
9.00	42.46	55.70	235	7	0.43	2.94	624.96	6207	1
8.00	41.71	58.10	276	6	0.42	R	R	3593	1
7.00	39.16	61.31	334	5	0.41	-6.18	375.45	4381	1
6.00	34.36	63.15	337	5	0.40	-14.90	1005.95	10984	1
5.00	30.36	61.99	467	4	0.39	F	F	15001	1
4.00	29.00	64.76	540	3	0.38	R	R	4127	1
3.00	21.39	67.16	555	3	0.37	F	F	15001	1
2.00	12.91	74.92	650	2	0.36	F	F	15001	1
1.90	10.46	76.25	656	2	0.35	F	F	15001	1
1.80	8.95	76.56	666	2	0.34	F	F	15001	1
1.70	8.75	77.45	675	2	0.33	F	F	15001	1
1.60	6.91	79.90	687	2	0.32	F	F	15001	1
1.50	4.17	81.37	629	1	0.31	F	F	15001	1
1.40	3.72	82.79	647	1	0.30	F	F	15001	1
1.30	.54	86.10	675	1	0.29	F	F	15001	1
1.20	-0.44	88.05	900	1	0.28	F	F	15001	1
1.10	-3.79	92.20	939	1	0.27	F	F	15001	1
1.00	-6.01	97.11	984	1	0.26	F	F	15001	1
0.90	-8.16	103.06	1044	1	0.25	F	F	15001	1
0.80	-10.35	111.64	1126	1	0.24	F	F	15001	1
0.70	-10.37	122.84	1240	1	0.23	F	F	15001	1
0.60	-6.97	142.36	1414	1	0.22	F	F	15001	1
0.59	-6.27	145.75	1436	1	0.21	F	F	15001	1
0.56	-4.94	149.31	1466	1	0.20	F	F	15001	1
0.57	-3.67	151.57	1489	1	0.19	F	F	15001	1
0.50	-2.80	154.10	1514	1	0.18	F	F	15001	1
0.55	-1.26	158.60	1545	1	0.09	R	R	12264	1
					0.04	F	F	15001	1

## TULUMAN, ARGENTINA

GEOGRAPHIC LATITUDE = 26.90 S

GEOGRAPHIC LONGITUDE = 294.60 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	2.94	12.10	114	10	12.05	R	R	1491	1
19.00	5.84	16.80	116	10	12.04	R	R	422	1
18.00	9.10	22.45	118	10	12.03	R	R	1383	1
17.00	12.74	29.49	121	10	12.02	R	R	1352	1
16.00	16.64	38.72	126	10	12.01	R	R	1328	1
15.00	20.31	51.57	131	10	12.00	R	R	1308	1
14.00	21.96	71.12	142	10	11.99	R	R	1291	1
13.90	21.85	73.64	143	10	11.98	R	R	1276	1
13.80	21.62	76.25	144	10	11.97	R	R	1264	1
13.70	21.30	79.11	146	10	11.96	R	R	1254	1
13.60	20.87	82.00	147	10	11.95	R	R	1245	1
13.50	20.29	85.20	210	9	11.94	R	R	1239	1
13.40	19.50	88.55	213	9	11.93	R	R	1233	1
13.30	18.65	92.09	216	9	11.92	R	R	1231	1
13.20	17.49	95.89	220	9	11.91	R	R	1229	1
13.10	16.09	99.96	225	9	11.90	R	R	1231	1
13.00	14.39	104.30	227	9	11.89	R	R	1237	1
12.90	12.34	109.18	232	9	11.88	R	R	1254	1
12.80	9.86	114.51	237	9	11.87	R	R	1297	1
12.70	6.90	120.50	244	9	11.86	R	R	1358	1
12.60	3.38	127.60	251	9	11.85	R	R	1411	1
12.50	-0.74	136.22	261	9	11.84	R	R	1459	1
12.40	-5.32	147.57	275	9	11.83	R	R	1506	1
12.30	-9.47	164.29	294	9	11.82	R	R	1560	1
12.29	-9.75	166.44	1335	1	11.81	R	R	1637	1
12.28	-9.99	168.75	1345	1	11.80	-12.38	243.26	2775	1
12.27	-10.17	171.20	1357	1	11.79	R	R	2611	1
12.26	-10.28	173.81	1370	1	11.78	R	R	2374	1
12.25	-10.30	176.59	1384	1	11.77	R	R	2782	1
12.24	-10.22	179.58	1400	1	11.76	R	R	1920	1
12.23	-10.02	182.79	1416	1	11.75	R	R	1864	1
12.22	-9.67	186.27	1434	1	11.74	R	R	1845	1
12.21	-9.14	190.05	1454	1	11.73	R	R	1840	1
12.20	-8.40	194.17	1475	1	11.72	R	R	1253	1
12.19	-7.40	198.75	1500	1	11.71	R	R	1021	1
12.18	-6.06	203.81	1527	1	11.70	R	R	1006	1
12.17	-4.39	209.50	1559	1	11.69	R	R	994	1
12.16	-2.27	216.20	1595	1	11.68	R	R	984	1
12.15	.31	224.14	1640	1	11.67	R	R	975	1
12.14	3.29	234.00	1695	1	11.66	R	R	967	1
12.13	6.10	247.49	1771	1	11.65	R	R	958	1
12.12	8.69	267.84	1887	1	11.64	R	R	950	1
12.11	-7.11	307.61	2138	1	11.63	R	R	944	1
12.10	N	N	2048	1	11.62	R	R	937	1
12.09	N	N	1821	1	11.61	R	R	930	1
12.08	N	N	2005	1	11.60	R	R	923	1
12.07	N	N	2368	1	11.59	R	R	918	1
12.06	-12.95	275.65	2534	1	11.54	R	R	891	1

TUCUMAN, ARGENTINA (CONTINUED - AGE 2)

GEOGRAPHIC LATITUDE = 26.90 S

GEOGRAPHIC LONGITUDE = 294.60 E

P	ASYMPTOTIC				P	ASYMPTOTIC			
	LAT	LONG	NSTEP	SS		LAT	LONG	NSTEP	SS
11.49	K	K	868	1	10.99	R	R	726	1
11.44	K	K	848	1	10.94	R	K	717	1
11.39	K	K	829	1	10.89	R	R	708	1
11.34	K	K	813	1	10.84	R	R	699	1
11.29	K	K	798	1	10.79	R	R	690	1
11.24	K	K	784	1	10.74	R	R	682	1
11.19	K	K	771	1	10.69	R	R	674	1
11.14	K	K	759	1	10.64	R	R	666	1
11.09	K	K	748	1	10.59	R	R	659	1
11.04	K	K	738	1	10.54	R	R	651	1

## UPPSALA, SWEDEN

GEOGRAPHIC LATITUDE = 59.85 N

GEOGRAPHIC LONGITUDE = 17.92 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	53.41	01.30	105	10	1.44	R	R	5877	1
19.00	51.70	01.50	105	10	1.43	8.83	393.63	2492	1
18.00	50.00	01.50	100	10	1.42	R	R	8646	1
17.00	48.25	01.50	100	10	1.41	1.17	420.88	2158	1
16.00	46.39	01.37	100	10	1.40	17.60	443.52	2615	1
15.00	44.51	01.17	107	10	1.39	F	F	15001	1
14.00	42.65	00.85	107	10	1.38	R	R	8151	1
13.00	40.91	00.49	152	9	1.37	F	F	15001	1
12.00	39.30	00.12	153	9	1.36	F	F	15001	1
11.00	38.19	54.85	199	8	1.35	F	F	15001	1
10.00	37.45	54.95	243	7	1.34	F	F	15001	1
9.00	37.10	00.81	243	7	1.33	R	R	1908	1
8.00	36.50	03.14	243	6	1.32	F	F	15001	1
7.00	34.39	07.45	400	5	1.31	F	F	15001	1
6.00	34.40	13.09	351	5	1.30	R	R	8216	1
5.00	.34	17.75	494	4	1.29	F	F	15001	1
4.00	-1.70	02.87	577	3	1.28	F	F	15001	1
3.00	-10.34	102.39	609	3	1.27	F	F	15001	1
2.90	-10.20	104.21	675	2	1.26	F	F	15001	1
2.80	-9.88	105.95	679	2	1.25	F	F	15001	1
2.70	-9.44	108.05	684	2	1.24	F	F	15001	1
2.60	-9.27	111.05	690	2	1.23	R	R	1843	1
2.50	-9.51	115.35	690	2	1.22	R	R	3681	1
2.40	-9.35	121.10	700	2	1.21	F	F	15001	1
2.30	-9.34	128.00	719	2	1.20	R	R	11407	1
2.20	-7.35	134.75	735	2	1.19	F	F	15001	1
2.10	-4.55	140.22	749	2	1.18	F	F	15001	1
2.00	-2.04	145.84	764	2	1.09	F	F	15001	1
1.90	.91	155.61	785	2	1.04	F	F	15001	1
1.80	7.80	173.52	824	2	1.00	F	F	15001	1
1.70	15.91	201.20	880	2	0.99	R	R	13634	1
1.60	0.10	259.99	1161	1	0.94	F	F	15001	1
1.59	2.59	246.32	1181	1	0.89	R	R	14742	1
1.50	-2.35	254.15	1205	1	0.84	F	F	15001	1
1.57	-9.37	204.70	1250	1	0.80	R	R	10111	1
1.50	-19.30	201.70	1289	1	0.79	F	F	15001	1
1.55	-20.20	323.00	1592	1	0.75	F	F	15001	1
1.54	5.22	401.55	2704	1	0.70	F	F	15001	1
1.50	19.57	453.50	2703	1	0.65	R	R	3673	1
1.52	1.34	528.42	3643	1	0.60	R	R	3962	1
1.51	-3.81	677.41	4940	1	0.55	R	R	2232	1
1.50	.64	951.42	8514	1	0.50	R	R	2222	1
1.49	-4.12	604.19	0549	1	0.45	R	R	2387	1
1.40	R	R	1581	1	0.40	R	R	2608	1
1.47	1.45	1450.75	14051	1	0.35	R	R	2740	1
1.40	17.82	821.65	7031	1	0.30	R	R	3502	1
1.45	5.84	408.04	3690	1	0.25	R	R	3984	1
					0.20	R	R	4917	1

## USHUAIA, ARGENTINA

GEOGRAPHIC LATITUDE = 54.80 S

GEOGRAPHIC LONGITUDE = 291.70 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
15.00	6.61	-1.14	117	10	5.70	R	R	6889	1
14.00	12.10	1.09	114	10	5.69	12.52	407.56	4144	1
13.00	17.97	4.29	172	9	5.68	8.13	448.87	4240	1
12.00	23.87	9.25	177	9	5.67	-17.69	296.18	2469	1
11.00	28.85	17.15	237	8	5.66	-8.64	359.93	3257	1
10.00	30.79	29.20	299	7	5.65	20.74	443.55	4093	1
9.00	26.55	44.86	314	7	5.64	R	R	2638	1
8.00	15.10	62.25	391	6	5.63	-10.62	306.89	2734	1
7.00	1.46	65.60	503	5	5.62	R	R	3428	1
6.90	.24	68.91	508	5	5.61	R	R	7081	1
6.80	-.81	92.55	513	5	5.60	2.51	381.15	4604	1
6.70	-1.84	96.60	513	5	5.59	R	R	1436	1
6.60	-2.79	101.17	524	5	5.58	R	R	1416	1
6.50	-3.63	106.44	532	5	5.57	R	R	1403	1
6.40	-4.31	112.59	540	5	5.56	R	R	1394	1
6.30	-4.73	120.02	551	5	5.55	R	R	1386	1
6.20	-4.68	129.32	565	5	5.54	R	R	1380	1
6.10	-3.67	141.63	583	5	5.53	R	R	1374	1
6.00	-.54	159.68	639	4	5.52	R	R	1371	1
5.99	-.02	162.02	1256	1	5.51	R	R	1368	1
5.98	.54	164.52	1264	1	5.50	R	R	1366	1
5.97	1.16	167.19	1273	1	5.49	R	R	1366	1
5.96	1.84	170.06	1282	1	5.48	R	R	1368	1
5.95	2.58	173.15	1292	1	5.47	R	R	1371	1
5.94	3.39	176.51	1304	1	5.46	R	R	1379	1
5.93	4.26	180.16	1316	1	5.45	R	R	1392	1
5.92	5.19	184.24	1330	1	5.44	R	R	5478	1
5.91	6.17	188.77	1346	1	5.43	-5.71	760.30	9572	1
5.90	7.16	193.91	1362	1	5.42	R	R	8095	1
5.89	8.12	199.82	1381	1	5.41	R	R	9691	1
5.88	9.92	206.77	1404	1	5.40	R	R	3163	1
5.87	9.35	215.19	1432	1	5.39	R	R	6759	1
5.86	8.93	225.74	1467	1	5.38	R	R	6421	1
5.85	6.58	239.68	1514	1	5.37	R	R	4971	1
5.84	-.53	260.16	1586	1	5.36	R	R	2945	1
5.83	-20.13	306.58	1747	1	5.35	R	R	2786	1
5.82	-1.16	413.25	2711	1	5.34	R	R	4500	1
5.81	R	R	3321	1	5.33	R	R	2172	1
5.80	R	R	1761	1	5.32	R	R	2176	1
5.79	R	R	5408	1	5.31	R	R	4714	1
5.78	2.65	509.90	4494	1	5.30	R	R	2850	1
5.77	R	R	4636	1	5.29	R	R	5122	1
5.76	R	R	2283	1	5.28	R	R	5115	1
5.75	-.96	377.31	2536	1	5.27	R	R	3925	1
5.74	-10.25	261.63	2152	1	5.26	R	R	5271	1
5.73	-17.24	268.74	2246	1	5.25	R	R	2394	1
5.72	-4.42	377.16	3120	1	5.24	R	R	2303	1
5.71	R	R	3445	1	5.23	R	R	5064	1



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USHUAIA, ARGENTINA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 54.80 S

GEOGRAPHIC LONGITUDE = 291.70 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
5.24	F	F	15001	1	4.78	R	R	1582	1
5.21	K	K	2720	1	4.77	R	R	1570	1
5.20	K	K	10040	1	4.73	R	R	1721	1
5.19	8.92	745.11	8393	1	4.72	R	R	8700	1
5.18	K	K	3954	1	4.68	R	R	2303	1
5.17	K	K	5291	1	4.67	R	R	2342	1
5.16	K	K	5899	1	4.63	R	R	3010	1
5.15	K	K	3604	1	4.62	R	R	4585	1
5.14	K	K	1855	1	4.58	R	R	7684	1
5.13	K	K	1791	1	4.57	R	R	13845	1
5.12	K	K	1755	1	4.53	R	R	3958	1
5.11	K	K	1753	1	4.52	R	R	3163	1
5.10	K	K	1763	1	4.48	R	R	1675	1
5.09	K	K	1784	1	4.47	R	R	1653	1
5.08	K	K	1842	1	4.43	R	R	2538	1
5.07	K	K	7534	1	4.42	R	R	3972	1
5.06	F	F	15001	1	4.40	R	R	4851	3
5.05	K	K	3645	1	4.38	R	R	7750	1
5.04	K	K	2798	1	4.37	R	R	5103	1
5.03	K	K	4132	1	4.33	F	F	15001	1
5.02	K	K	4185	1	4.32	R	R	1831	1
5.01	K	K	6339	1	4.28	R	R	9440	1
5.00	K	K	2474	1	4.27	R	R	4954	1
4.99	K	K	2478	1	4.23	R	R	7169	1
4.98	K	K	9157	1	4.22	R	R	7208	1
4.97	K	K	13138	1	4.18	R	R	2000	1
4.95	K	K	2597	1	4.17	R	R	3071	1
4.94	K	K	2420	1	4.13	R	R	1092	1
4.86	K	R	4307	1	4.08	R	R	1040	1
4.87	K	K	6745	1	4.03	R	R	1000	1
4.85	K	K	1704	1	3.98	R	R	900	1
4.84	K	K	1673	1	3.93	R	R	385	1
					3.14	R	R	1414	3

## UTRECHT, NETHERLANDS

GEOGRAPHIC LATITUDE = 52.06 N

GEOGRAPHIC LONGITUDE = 5.07 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	21.90	54.90	107	10	2.87	R	R	1353	1
19.00	14.75	55.59	107	10	2.86	R	R	1428	1
18.00	17.44	56.20	106	10	2.85	-9.70	544.54	6189	1
17.00	14.98	56.70	108	10	2.84	R	R	5719	1
16.00	12.39	57.35	109	10	2.83	7.06	579.31	5347	1
15.00	9.69	57.91	110	10	2.82	F	F	15001	1
14.00	6.95	58.40	110	10	2.81	11.61	438.54	3466	1
13.00	4.27	59.00	158	9	2.80	R	R	10056	1
12.00	1.80	59.72	159	9	2.79	-0.90	534.81	4417	1
11.00	-0.25	60.52	208	8	2.78	-5.63	1102.78	9776	1
10.00	-1.59	61.60	254	7	2.77	-5.49	567.02	4882	1
9.00	-2.11	63.32	250	7	2.76	4.91	584.28	5259	1
8.00	-2.03	66.39	305	6	2.75	-12.92	348.37	2624	1
7.00	-2.70	72.34	360	5	2.74	F	F	15001	1
6.00	-6.70	63.52	374	5	2.73	18.74	435.40	3041	1
5.00	-12.11	103.00	541	4	2.72	2.68	413.88	2710	1
4.00	-3.20	126.49	667	3	2.71	F	F	15001	1
3.90	-1.95	129.25	671	3	2.70	5.19	488.69	2996	1
3.80	-0.64	132.47	670	3	2.69	-5.66	389.55	2266	1
3.70	.75	136.45	682	3	2.68	F	F	15001	1
3.60	2.31	141.44	689	3	2.67	-4.10	537.26	4820	1
3.50	4.30	147.95	699	3	2.66	-12.02	613.43	4433	1
3.40	7.25	156.60	714	3	2.65	R	R	2157	1
3.30	11.20	168.85	730	3	2.64	R	R	9167	1
3.20	15.70	187.60	772	3	2.63	-17.86	655.57	6086	1
3.10	12.50	221.74	641	3	2.62	F	F	15001	1
3.09	10.54	226.72	1121	1	2.61	R	R	3550	1
3.08	7.82	232.17	1140	1	2.60	F	F	15001	1
3.07	4.25	238.22	1161	1	2.59	F	F	15001	1
3.06	-0.47	245.14	1180	1	2.58	R	R	9531	1
3.05	-6.62	253.49	1217	1	2.57	1.64	914.92	7177	1
3.04	-14.54	264.64	1250	1	2.56	R	R	10605	1
3.03	-23.82	282.67	1319	1	2.55	R	R	12237	1
3.02	-25.62	321.55	1430	1	2.54	R	R	1768	1
3.01	.99	408.41	2175	1	2.53	R	R	1721	1
3.00	9.80	578.10	4582	1	2.52	R	R	1737	1
2.99	18.81	813.80	3680	1	2.51	R	R	4431	1
2.98	-10.19	302.81	1792	1	2.50	R	R	9911	1
2.97	1.50	401.30	2524	1	2.49	R	R	4128	1
2.96	15.22	409.00	3060	1	2.48	F	F	15001	1
2.95	1.39	632.15	4480	1	2.47	F	F	15001	1
2.94	-9.03	300.55	2772	1	2.46	F	F	15001	1
2.93	-5.14	921.92	7245	1	2.45	R	R	12776	1
2.92	9.69	451.80	4384	1	2.44	F	F	15001	1
2.91	N	N	1390	1	2.43	F	F	15001	1
2.90	N	N	1341	1	2.42	R	R	2319	1
2.89	N	N	1320	1	2.41	F	F	15001	1
2.88	N	N	1332	1	2.40	R	R	5944	1

UTRECHT, NETHERLANDS (CONTINUED) - PAGE 2)

GEOGRAPHIC LATITUDE = 52.06 N

GEOGRAPHIC LONGITUDE = 5.07 E

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
2.39	K	K	11469	1	2.06	R	R	10475	1
2.38	F	F	15001	1	2.01	R	R	3621	1
2.37	K	K	13282	1	2.00	R	R	11677	2
2.36	K	K	9658	1	1.96	F	F	15001	1
2.35	F	F	15001	1	1.91	F	F	15001	1
2.34	K	K	12782	1	1.86	R	R	11409	1
2.33	K	K	5494	1	1.81	F	F	15001	1
2.32	K	K	1675	1	1.76	R	R	2025	1
2.31	K	K	1686	1	1.71	F	F	15001	1
2.30	K	K	4988	1	1.66	R	R	2404	1
2.29	F	F	15001	1	1.61	R	R	6524	1
2.28	K	K	8335	1	1.56	R	R	8492	1
2.27	K	K	9758	1	1.51	R	R	12785	1
2.26	F	F	15001	1	1.46	R	R	13654	1
2.25	K	R	3451	1	1.41	R	R	2453	1
2.24	F	F	15001	1	1.36	R	R	1265	1
2.23	F	F	15001	1	1.31	R	R	1256	1
2.22	F	F	15001	1	1.26	R	R	1386	1
2.21	K	K	9472	1	1.21	R	R	9118	1
2.16	F	F	15001	1	1.16	R	R	1291	1
2.11	F	F	15001	1	0.32	R	R	2923	1

## VICTORIA, CANADA

GEOGRAPHIC LATITUDE = 48.50 N

GEOGRAPHIC LONGITUDE = 236.58 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	11.43	-96.97	106	10	1.88	2.13	781.75	8080	1
19.00	9.59	-97.10	106	10	1.87	-2.14	521.03	5998	1
18.00	7.66	-97.30	106	10	1.86	R	R	5300	1
17.00	5.64	-97.50	107	10	1.85	F	F	15001	1
16.00	3.58	-97.90	107	10	1.84	8.01	578.86	6097	1
15.00	1.49	-98.30	106	10	1.83	14.67	448.76	5063	1
14.00	-0.53	-98.77	106	10	1.82	3.71	577.33	4877	1
13.00	-2.43	-99.22	154	9	1.81	F	F	15001	1
12.00	-4.10	-99.61	154	9	1.80	3.61	567.35	5781	1
11.00	-5.41	-99.77	201	8	1.79	-2.74	390.80	5093	1
10.00	-6.33	-99.42	245	7	1.78	R	R	1784	1
9.00	-7.07	-98.15	246	7	1.77	R	R	1888	1
8.00	-8.43	-95.40	291	5	1.76	-10.97	282.65	3467	1
7.00	-12.19	-90.77	351	5	1.75	F	F	15001	1
6.00	-20.10	-84.50	356	5	1.74	F	F	15001	1
5.00	-28.51	-77.44	507	4	1.73	F	F	15001	1
4.00	-30.00	-66.74	595	3	1.72	R	R	6721	1
3.00	-28.71	-50.70	67	3	1.71	F	F	15001	1
2.90	-26.66	-27.74	718	2	1.70	F	F	15001	1
2.80	-24.59	-24.43	725	2	1.69	F	F	15001	1
2.70	-22.22	-20.00	733	2	1.68	R	R	4581	1
2.60	-18.86	-13.69	744	2	1.67	F	F	15001	1
2.50	-13.14	-5.15	762	2	1.66	R	R	9439	1
2.40	-3.52	5.40	790	2	1.65	F	F	15001	1
2.30	9.65	18.67	831	2	1.64	R	R	6604	1
2.20	21.46	38.47	884	2	1.63	F	F	15001	1
2.10	22.69	73.80	962	2	1.62	F	F	15001	1
2.09	21.32	79.35	1160	1	1.61	F	F	15001	1
2.08	19.34	85.52	1178	1	1.60	R	R	11422	1
2.07	16.52	92.62	1199	1	1.59	F	F	15001	1
2.06	12.53	101.06	1226	1	1.58	R	R	1731	1
2.05	6.92	111.70	1262	1	1.57	R	R	10278	1
2.04	-0.79	127.02	1314	1	1.56	F	F	15001	1
2.03	-8.78	155.93	1406	1	1.55	R	R	5362	1
2.02	10.19	756.82	7644	1	1.50	F	F	15001	1
2.01	-4.90	552.47	6160	1	1.45	F	F	15001	1
2.00	-3.37	376.93	3601	1	1.40	F	F	15001	1
1.99	5.85	192.90	1919	1	1.35	F	F	15001	1
1.98	-14.34	344.51	3937	1	1.30	F	F	15001	1
1.97	-7.42	234.91	2703	1	1.25	F	F	15001	1
1.96	-11.25	345.79	3981	1	1.20	F	F	15001	1
1.95	F	F	15001	1	1.15	R	R	5344	1
1.94	R	R	1537	1	1.10	F	F	15001	1
1.93	R	R	1486	1	1.05	F	F	15001	1
1.92	R	R	1657	1	1.00	R	R	3828	1
1.91	-16.43	332.08	3591	1	0.95	F	F	15001	1
1.90	F	F	15001	1	0.90	R	R	2944	1
1.89	-4.64	914.52	12524	1	0.85	F	F	15001	1

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VICTORIA, CANADA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 48.50 N

GEOGRAPHIC LONGITUDE = 236.58 E

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
U.80	F	F	15001	1	U.85	R	R	1769	:
U.75	F	F	15001	1	U.80	R	R	1859	:
U.70	K	K	1708	1	U.55	R	R	1996	:

## VOSTOK, ANTARCTICA

GEOGRAPHIC LATITUDE = 78.47 S

GEOGRAPHIC LONGITUDE = 106.87 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-69.13	59.37	103	10	1.50	-66.12	35.09	781	1
19.00	-69.17	57.31	103	10	1.40	-65.35	32.48	797	1
18.00	-69.27	55.13	103	10	1.30	-65.50	33.73	816	1
17.00	-69.45	52.84	103	10	1.20	-64.88	31.23	841	1
16.00	-69.74	50.49	103	10	1.10	-64.00	31.65	870	1
15.00	-70.14	48.13	103	10	1.00	-63.70	31.53	908	1
14.00	-70.70	45.88	103	10	0.90	-63.06	30.53	956	1
13.00	-71.41	43.90	146	9	0.80	-62.46	28.50	1021	1
12.00	-72.27	42.74	146	9	0.70	-61.67	28.56	1107	1
11.00	-73.20	42.77	190	8	0.60	-60.69	26.64	1229	1
10.00	-73.94	44.70	232	7	0.50	-59.73	25.11	1408	1
9.00	-74.05	48.48	232	7	0.40	-58.16	24.01	1688	1
8.00	-73.03	51.91	274	6	0.30	-56.42	21.91	2173	1
7.00	-71.00	51.07	326	5	0.20	-53.79	18.31	3175	1
6.00	-69.82	44.63	329	5	0.10	-49.19	12.72	6250	1
5.00	-71.25	40.30	454	4	0.09	-48.43	12.03	6936	1
4.00	-69.68	44.63	524	3	0.08	-47.72	11.02	7797	1
3.00	-69.72	40.57	535	3	0.07	-47.10	9.92	8904	1
2.00	-66.91	34.99	619	2	0.06	-46.17	8.51	10383	1
1.90	-67.52	34.77	626	2	0.05	-45.46	6.98	12453	1
1.80	-67.14	36.59	633	2	0.04	F	F	15001	1
1.70	-66.04	35.19	641	2	0.03	F	F	15001	1
1.60	-66.47	33.23	650	2	0.02	F	F	15001	1
					0.01	F	F	15001	1

## WILKES, ANTARCTICA

GEOGRAPHIC LATITUDE = 66.42 S

GEOGRAPHIC LONGITUDE = 110.45 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
200.00	-64.94	111.92	102	10	6.00	-55.50	109.37	273	6
190.00	-64.86	111.97	102	10	7.00	-53.59	108.46	327	5
180.00	-64.77	112.03	102	10	6.00	-52.33	106.15	328	5
170.00	-64.67	112.10	102	10	5.00	-53.36	106.83	452	4
160.00	-64.56	112.16	102	10	4.00	-50.32	108.07	522	3
150.00	-64.44	112.23	102	10	3.00	-49.11	108.44	532	3
140.00	-64.29	112.31	102	10	2.00	-45.92	106.37	617	2
130.00	-64.13	112.36	102	10	1.90	-45.78	107.71	623	2
120.00	-63.94	112.46	102	10	1.80	-44.66	106.02	630	2
110.00	-63.71	112.54	102	10	1.70	-44.13	107.03	639	2
100.00	-63.44	112.62	102	10	1.60	-44.28	107.45	648	2
90.00	-63.11	112.66	102	10	1.50	-42.99	107.78	774	1
80.00	-62.71	112.72	102	10	1.40	-42.88	107.05	795	1
70.00	-62.20	112.71	102	10	1.30	-41.74	107.76	815	1
60.00	-61.54	112.59	102	10	1.20	-41.58	107.36	838	1
50.00	-60.60	112.20	102	10	1.10	-40.32	107.00	868	1
45.00	-60.12	111.94	102	10	1.00	-39.21	107.18	906	1
40.00	-59.48	111.40	102	10	0.90	-38.24	107.04	954	1
35.00	-58.76	110.73	102	10	0.80	-37.45	107.16	1018	1
30.00	-57.94	109.62	102	10	0.70	-35.66	106.94	1106	1
25.00	-57.13	107.94	102	10	0.60	-34.29	106.96	1227	1
20.00	-56.60	105.53	102	10	0.50	-32.16	107.03	1406	1
19.00	-56.54	104.94	102	10	0.40	-29.48	106.57	1687	1
18.00	-56.62	104.44	102	10	0.30	-25.83	106.17	2174	1
17.00	-56.71	103.92	102	10	0.20	-20.41	105.44	3179	1
16.00	-56.87	103.45	102	10	0.10	-10.73	103.55	6270	1
15.00	-57.10	103.11	102	10	0.09	-9.42	103.10	6962	1
14.00	-57.40	102.98	103	10	0.08	-7.73	102.68	7828	1
13.00	-57.74	103.15	145	9	0.07	-5.91	102.08	8943	1
12.00	-58.06	103.76	145	9	0.06	-3.94	101.28	10432	1
11.00	-58.22	104.92	189	8	0.05	-1.52	100.27	12518	1
10.00	-58.00	106.60	230	7	0.04	F	F	15001	1
9.00	-57.13	108.40	231	7	0.03	F	F	15001	1
					0.02	F	F	15001	1

## YAKUTSK, U.S.S.R.

GEOGRAPHIC LATITUDE = 62.02 N

GEOGRAPHIC LONGITUDE = 129.72 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
200.00	61.51	139.24	102	10	2.00	3.33	304.84	866	2
190.00	61.45	139.73	102	10	1.99	4.04	308.39	1036	1
180.00	61.38	140.27	102	10	1.98	4.69	312.35	1047	1
170.00	61.30	140.86	102	10	1.97	5.20	316.83	1059	1
160.00	61.20	141.53	102	10	1.96	5.50	321.94	1073	1
150.00	61.08	142.26	102	10	1.95	5.46	327.85	1090	1
140.00	60.93	143.12	102	10	1.94	4.91	334.73	1109	1
130.00	60.75	144.06	102	10	1.93	3.58	342.90	1132	1
120.00	60.52	145.16	102	10	1.92	1.14	352.91	1161	1
110.00	60.23	146.45	102	10	1.91	-2.78	365.90	1201	1
100.00	59.85	147.92	102	10	1.90	-8.05	384.76	1259	1
90.00	59.34	149.66	102	10	1.89	-8.54	419.88	1368	1
80.00	58.65	151.72	102	10	1.88	1.36	495.79	2097	1
70.00	57.66	154.17	102	10	1.87	7.12	457.14	2371	1
60.00	56.14	157.11	102	10	1.86	19.83	420.27	1787	1
50.00	53.91	160.59	102	10	1.85	-6.55	576.52	2832	1
45.00	52.26	162.54	103	10	1.84	8.32	403.13	1986	1
40.00	50.13	164.58	103	10	1.83	12.05	412.04	2170	1
35.00	47.27	166.66	103	10	1.82	18.35	415.53	2357	1
30.00	43.35	168.61	103	10	1.81	25.71	435.54	2607	1
25.00	37.87	170.17	104	10	1.80	R	R	1540	1
20.00	30.17	170.85	105	10	1.79	R	R	1464	1
19.00	28.31	170.86	106	10	1.78	R	R	1475	1
18.00	26.34	170.67	106	10	1.77	9.16	480.14	3185	1
17.00	24.28	170.47	106	10	1.76	-24.94	663.72	4585	1
16.00	22.13	170.26	107	10	1.75	3.27	857.43	5651	1
15.00	19.05	169.82	107	10	1.74	5.81	1489.74	13323	1
14.00	17.76	169.39	107	10	1.73	-6.15	1006.28	9213	1
13.00	15.71	168.93	153	9	1.72	16.70	444.05	2297	1
12.00	13.83	168.49	153	9	1.71	7.68	447.68	2539	1
11.00	12.27	168.22	200	8	1.70	-4.82	519.09	2378	1
10.00	11.08	168.32	244	7	1.69	R	R	2394	1
9.00	10.12	169.16	244	7	1.68	-11.59	1307.31	12525	1
8.00	8.64	171.36	284	6	1.67	F	F	15001	1
7.00	5.16	174.97	346	5	1.66	-6.83	1313.95	8461	1
6.00	-2.16	179.63	354	5	1.65	R	R	4063	1
5.00	-10.47	184.37	496	4	1.64	R	R	2091	1
4.00	-14.33	187.51	582	3	1.63	R	R	14997	1
3.00	-22.96	218.00	624	3	1.62	F	F	15001	1
2.90	-22.56	220.86	691	2	1.61	2.72	1462.91	12252	1
2.80	-22.27	224.27	696	2	1.60	R	R	1784	1
2.70	-22.10	228.80	703	2	1.59	R	R	6036	1
2.60	-21.80	235.05	713	2	1.58	F	F	15001	1
2.50	-20.60	243.26	727	2	1.57	F	F	15001	1
2.40	-17.53	252.79	745	2	1.56	F	F	15001	1
2.30	-12.76	262.44	768	2	1.55	F	F	15001	1
2.20	-7.79	271.69	790	2	1.54	R	R	2378	1
2.10	-3.13	283.01	816	2	1.53	F	F	15001	1



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YAKUTSK, U.S.S.R. (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 62.02 N

GEOGRAPHIC LONGITUDE = 129.72 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
1.52	F	F	15001	1	1.20	F	F	15001	1
1.51	K	R	12044	1	1.15	R	R	7892	1
1.50	F	F	15001	1	1.10	F	F	15001	1
1.49	K	K	12190	1	1.05	F	F	15001	1
1.48	F	F	15001	1	1.00	R	R	13344	1
1.47	F	F	15001	1	0.95	R	R	14494	1
1.46	F	F	15001	1	0.90	F	F	15001	1
1.45	K	R	1848	1	0.85	R	R	2871	1
1.44	K	K	1707	1	0.80	R	R	3152	1
1.43	K	K	1721	1	0.75	F	F	15001	1
1.42	F	F	15001	1	0.70	R	R	3510	1
1.41	F	F	15001	1	0.65	F	F	15001	1
1.40	F	F	15001	1	0.60	R	R	2058	1
1.35	F	F	15001	1	0.55	R	R	2019	1
1.30	F	F	15001	1	0.50	R	R	2117	1
1.25	K	K	12127	1	0.45	R	R	2279	1
					0.40	R	R	2534	1

## ZUGSPITZE, GERMANY

GEOGRAPHIC LATITUDE = 47.42 N

GEOGRAPHIC LONGITUDE = 10.98 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	13.63	65.11	108	10	4.49	R	R	1339	1
19.00	13.18	66.24	109	10	4.48	R	R	1325	1
18.00	8.53	67.43	110	10	4.47	R	R	1317	1
17.00	5.69	68.70	110	10	4.46	R	R	1313	1
16.00	2.69	70.12	111	10	4.45	R	R	1313	1
15.00	-.43	71.72	113	10	4.44	R	R	1314	1
14.00	-3.59	73.50	114	10	4.43	R	R	1319	1
13.00	-6.63	75.75	163	9	4.42	R	R	1326	1
12.00	-9.32	78.37	163	9	4.41	R	R	1337	1
11.00	-11.31	81.54	218	8	4.40	R	R	1382	1
10.00	-12.20	85.30	269	7	4.39	R	R	1472	1
9.00	-11.72	89.81	272	7	4.38	R	R	2927	1
8.00	-10.04	95.70	324	6	4.37	1.43	411.73	3997	1
7.00	-8.09	105.60	395	5	4.36	R	R	2633	1
6.00	-5.94	126.24	414	5	4.35	-10.88	353.05	3000	1
5.90	-5.40	129.48	573	4	4.34	2.42	496.29	3744	1
5.80	-4.69	133.04	578	4	4.33	R	R	2529	1
5.70	-3.74	136.98	584	4	4.32	-13.42	350.29	2887	1
5.60	-2.48	141.33	591	4	4.31	-10.02	368.73	2925	1
5.50	-.83	146.23	600	4	4.30	1.32	720.28	5787	1
5.40	1.28	151.73	609	4	4.29	-10.71	363.42	2414	1
5.30	3.96	158.04	621	4	4.28	-15.47	645.04	6185	1
5.20	7.24	165.43	635	4	4.27	R	R	4363	1
5.10	11.04	174.54	653	4	4.26	-19.64	1056.70	11260	1
5.00	14.89	186.31	676	4	4.25	F	F	15001	1
4.90	17.18	202.68	707	4	4.24	1.50	389.80	3091	1
4.80	12.50	226.96	754	4	4.23	R	R	6264	1
4.70	-19.39	274.14	863	4	4.22	R	R	8994	1
4.69	-25.23	286.70	1351	1	4.21	7.44	554.77	4898	1
4.68	-28.75	306.95	1410	1	4.20	15.63	472.32	3591	1
4.67	-18.34	341.64	1518	1	4.19	-5.53	222.70	2370	1
4.66	2.81	734.40	5737	1	4.18	-7.52	30.19	2163	1
4.65	R	R	1677	1	4.17	-10.53	329.57	2164	1
4.64	12.34	434.89	3003	1	4.16	-7.97	383.96	2342	1
4.63	-14.33	341.99	2387	1	4.15	.12	504.75	4663	1
4.62	1.34	409.78	2825	1	4.14	10.06	428.41	3243	1
4.61	-6.75	305.75	1928	1	4.13	R	R	2304	1
4.60	-14.29	320.07	1980	1	4.12	R	R	2163	1
4.59	.46	409.43	2649	1	4.11	-1.61	873.10	7954	1
4.58	-7.72	379.44	2610	1	4.10	R	R	7401	1
4.57	-.95	334.31	2289	1	4.09	R	R	284	1
4.56	.70	442.22	4187	1	4.08	R	R	2585	1
4.55	15.54	562.69	4908	1	4.07	-1.78	551.81	3695	1
4.54	-7.23	364.18	3037	1	4.06	8.93	784.76	5645	1
4.53	-2.53	717.37	7401	1	4.05	R	R	4409	1
4.52	5.26	564.02	6463	1	4.04	-4.23	1003.80	10281	1
4.51	R	R	1446	1	4.03	F	F	15001	1
4.50	R	R	1375	1	4.02	-1.68	525.41	4962	1

ZUGSPITZE, GERMANY (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 47.42 N

GEOGRAPHIC LONGITUDE = 10.98 E

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS
4.00	K	K	4208	1	3.57	R	R	2905	1
4.00	F	F	15001	1	3.56	R	R	13688	1
3.99	K	K	4242	1	3.55	R	R	6028	1
3.98	3.82	509.34	5427	1	3.54	R	R	6841	1
3.97	K	K	1911	1	3.53	F	F	15001	1
3.96	K	K	1843	1	3.52	F	F	15001	1
3.95	K	K	1802	1	3.51	R	R	11161	1
3.94	K	K	1770	1	3.50	F	F	15001	1
3.93	K	K	1759	1	3.49	R	R	6391	1
3.92	K	K	1750	1	3.48	R	R	13185	1
3.91	K	K	1759	1	3.47	R	R	1726	1
3.90	K	K	1769	1	3.46	R	R	1669	1
3.89	K	K	1785	1	3.45	R	R	1643	1
3.88	K	K	1809	1	3.44	R	R	1628	1
3.87	K	K	1908	1	3.43	R	R	1629	1
3.86	K	K	7076	1	3.42	R	R	1654	1
3.85	K	K	8490	1	3.41	R	R	1701	1
3.84	K	K	7138	1	3.40	R	R	5952	1
3.83	F	F	15001	1	3.39	F	F	15001	1
3.82	K	K	6805	1	3.38	R	R	9344	1
3.81	-15.70	713.57	7767	1	3.37	R	R	5494	1
3.80	K	K	4447	1	3.36	R	R	2412	1
3.79	K	K	5110	1	3.31	F	F	15001	1
3.78	-4.58	606.29	6911	1	3.26	R	R	7968	1
3.77	K	K	4107	1	3.21	R	R	2977	1
3.76	K	K	3575	1	3.16	R	R	1734	1
3.75	K	K	6440	1	3.11	R	R	3227	1
3.74	K	K	9576	1	3.06	R	R	5888	1
3.73	-1.50	1004.69	13371	1	3.01	R	R	9784	1
3.72	7.15	921.12	12109	1	2.96	R	R	9719	1
3.71	1.71	1002.20	13027	1	2.91	R	R	7121	1
3.70	F	F	15001	1	2.86	F	F	15001	1
3.69	K	K	2465	1	2.81	R	R	3897	1
3.68	K	K	2351	1	2.76	R	R	6357	1
3.67	K	K	2389	1	2.71	F	F	15001	1
3.66	K	K	4042	1	2.66	R	R	8662	1
3.65	K	K	11558	1	2.61	R	R	3831	1
3.64	K	K	11719	1	2.56	R	R	3925	1
3.63	K	K	5516	1	2.51	R	R	12185	1
3.62	F	F	15001	1	2.46	R	R	2780	1
3.61	F	F	15001	1	2.41	R	R	2786	1
3.60	K	K	3968	1	2.36	R	R	11990	1
3.59	K	K	2305	1	2.31	R	R	2871	1
3.58	K	K	4553	1	1.85	R	R	817	2
					1.47	R	R	957	1

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 51.60 S

GEOGRAPHIC LONGITUDE = 23.70 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
3.00	24.29	116.52	727	2	1.92	F	F	15001	1
2.90	22.23	123.61	736	2	1.91	F	F	15001	1
2.80	18.41	132.54	754	2	1.90	F	F	15001	1
2.75	15.40	137.67	765	2	1.89	R	R	14295	1
2.70	11.63	143.23	776	2	1.88	F	F	15001	1
2.60	1.14	156.00	812	2	1.87	F	F	15001	1
2.50	-11.26	173.70	861	2	1.86	F	F	15001	1
2.45	-15.85	186.62	894	2	1.85	9.23	762.51	6708	1
2.40	-16.62	203.72	935	2	1.84	R	R	14675	1
2.35	-10.61	226.18	990	2	1.83	F	F	15001	1
2.30	4.01	202.25	1086	2	1.82	F	F	15001	1
2.29	6.53	275.20	1119	2	1.81	F	F	15001	1
2.28	5.87	293.84	1168	2	1.80	F	F	15001	1
2.27	5.99	325.81	1261	2	1.79	F	F	15001	1
2.26	-2.55	319.47	5029	2	1.78	R	R	1811	1
2.25	18.37	398.50	2150	2	1.77	F	F	15001	1
2.24	2.90	358.73	2467	2	1.76	R	R	3465	1
2.23	-1.75	421.14	2175	2	1.75	F	F	15001	1
2.22	10.74	518.29	3070	2	1.74	F	F	15001	1
2.21	15.51	421.29	1803	2	1.73	F	F	15001	1
2.20	13.93	275.93	1446	2	1.72	R	R	3634	1
2.19	-8.44	298.25	1499	2	1.71	F	F	15001	1
2.18	-6.90	363.22	1492	2	1.70	R	R	13919	1
2.17	-6.90	352.90	2259	2	1.69	F	F	15001	1
2.16	-15.62	288.64	1687	2	1.68	R	R	3492	1
2.15	.59	304.28	2185	2	1.67	F	F	15001	1
2.14	-15.24	834.52	5400	2	1.66	F	F	15001	1
2.13	-2.00	421.12	2944	2	1.65	R	R	7182	1
2.12	-5.24	365.83	2177	2	1.64	R	R	11105	1
2.11	17.68	775.46	5881	2	1.63	R	R	12268	1
2.10	H	H	1259	2	1.62	R	R	6730	1
2.09	H	H	1193	2	1.61	R	R	2241	1
2.08	H	H	1184	2	1.60	R	R	3513	1
2.07	H	H	1213	2	1.59	F	F	15001	1
2.06	-6.97	545.93	4256	2	1.58	R	R	2905	1
2.05	2.61	501.79	4464	2	1.57	R	R	2816	1
2.04	H	H	2282	2	1.56	F	F	15001	1
2.03	-4.38	334.42	2296	2	1.55	R	R	7556	1
2.02	9.84	440.10	3291	2	1.54	F	F	15001	1
2.01	F	F	15001	1	1.53	R	R	8223	1
2.00	H	H	2687	1	1.52	R	R	14030	1
1.99	F	F	15001	1	1.51	R	R	1915	1
1.98	-0.52	762.93	5602	1	1.50	R	R	5672	1
1.97	15.90	487.25	3248	1	1.49	R	R	12353	1
1.96	-5.87	671.00	6154	1	1.48	F	F	15001	1
1.95	-3.24	1347.18	11026	1	1.47	F	F	15001	1
1.94	F	F	15001	1	1.46	R	R	8594	1
1.93	H	H	1787	1	1.45	R	R	2258	1

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SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 51.60 S

GEOGRAPHIC LONGITUDE = 23.70 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS
1.20	K	K	4500	1
1.15	F	F	15001	1
1.10	K	K	2002	1
1.05	K	K	2021	1
1.00	K	K	10250	1
0.95	K	K	1543	1
0.90	K	K	14063	1

P	ASYMPTOTIC LAT	LONG	NSTEP	SS
0.85	R	R	1570	1
0.80	F	F	15001	1
0.75	R	R	1660	1
0.70	R	R	1908	1
0.65	R	R	1769	1
0.60	R	R	1880	1
0.55	R	R	2017	1
0.50	R	R	2154	1

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 47.90 S

GEOGRAPHIC LONGITUDE = 30.50 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
3.40	20.48	150.49	735	2	2.31	15.74	436.84	3215	2
3.36	20.15	150.99	735	2	2.30	15.33	486.35	2974	2
3.36	19.78	151.40	735	2	2.29	6.86	806.87	6473	2
3.35	19.51	151.74	736	2	2.28	-3.50	534.26	3665	2
3.34	19.44	152.00	736	2	2.27	-15.12	332.75	1715	2
3.32	19.09	152.50	738	2	2.26	-16.61	306.64	1652	2
3.30	18.74	153.15	739	2	2.25	-11.16	318.99	1680	2
3.20	16.87	156.54	745	2	2.24	1.41	899.73	5821	2
3.10	14.57	141.10	755	2	2.23	R	R	3465	2
3.00	11.32	147.50	764	2	2.22	F	F	16000	2
2.90	6.21	156.43	782	2	2.21	R	R	1781	2
2.80	-2.09	159.30	813	2	2.20	R	R	7099	2
2.75	-7.75	178.54	835	2	2.19	.96	721.85	5498	1
2.70	-13.92	191.79	867	2	2.18	H	R	8282	1
2.65	-17.82	213.40	917	2	2.17	F	F	15001	1
2.64	-17.57	219.62	932	2	2.16	11.11	775.56	8801	1
2.63	-16.64	226.60	948	2	2.15	-6.74	1291.67	12882	1
2.62	-14.74	234.64	967	2	2.14	F	F	15001	1
2.61	-11.50	244.12	991	2	2.13	F	F	15001	1
2.60	-6.72	225.75	1021	2	2.12	R	R	9622	1
2.59	-0.07	271.64	1065	2	2.11	R	R	1795	1
2.50	5.76	248.77	1138	2	2.10	R	R	1720	1
2.57	-12.90	405.05	1431	2	2.09	R	R	1829	1
2.50	H	H	1450	2	2.08	F	F	15001	1
2.55	-1.53	505.44	3080	2	2.07	R	R	3885	1
2.54	-16.64	208.02	1405	2	2.06	R	R	5179	1
2.53	.78	515.04	2494	2	2.05	F	F	15001	1
2.52	-3.81	300.85	1842	2	2.04	R	R	8610	1
2.51	8.64	402.14	2443	2	2.03	R	R	7819	1
2.50	-3.40	424.80	3087	2	2.02	R	R	2297	1
2.49	11.61	457.54	3657	2	2.01	F	F	15001	1
2.48	H	H	3064	2	2.00	R	R	14291	1
2.47	H	H	1235	2	1.99	R	R	2229	1
2.46	H	H	15080	2	1.98	R	R	7855	1
2.45	H	H	1204	2	1.97	F	F	15001	1
2.44	H	H	5010	2	1.96	F	F	15001	1
2.43	4.15	424.75	1788	2	1.95	F	F	15001	1
2.42	H	H	1001	2	1.94	R	R	1646	1
2.41	H	H	2245	2	1.93	F	F	15001	1
2.40	H	H	5920	2	1.92	F	F	15001	1
2.39	11.09	457.92	3181	2	1.91	F	F	15001	1
2.38	4.37	471.85	3594	2	1.90	F	F	15001	1
2.37	-7.58	324.31	2174	2	1.89	F	F	15001	1
2.36	15.43	491.70	3305	2	1.88	F	F	15001	1
2.35	-19.78	301.04	1794	2	1.87	F	F	15001	1
2.34	6.81	656.02	4145	2	1.86	R	R	3413	1
2.33	5.82	301.90	2732	2	1.85	F	F	15001	1
2.32	16.62	479.92	3396	2	1.84	F	F	15001	1

SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 47.90 S

GEOGRAPHIC LONGITUDE = 30.5

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP
1.85	F	F	15001	1	1.50	F	F	15001
1.82	K	K	13840	1	1.45	R	R	2212
1.81	F	F	15001	1	1.40	F	F	15001
1.80	K	K	1942	1	1.35	F	F	15001
1.79	F	F	15001	1	1.30	R	R	11305
1.78	F	F	15001	1	1.25	R	R	7617
1.77	K	K	6803	1	1.20	F	F	15001
1.76	F	F	15001	1	1.15	R	R	3117
1.75	K	K	11582	1	1.10	R	R	1487
1.74	F	F	15001	1	1.05	R	R	2614
1.73	F	F	15001	1	1.00	R	R	6041
1.72	F	F	15001	1	0.95	R	R	1088
1.71	K	K	7867	1	0.90	R	R	5081
1.70	K	R	13563	1	0.85	R	R	1564
1.65	F	F	15001	1	0.80	R	R	1543
1.60	K	K	12415	1	0.75	R	R	641
1.55	K	K	13693	1	0.70	R	R	1647

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 47.10 S

GEOGRAPHIC LONGITUDE = 22.90 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
3.70	15.85	156.30	751	2	2.57	-16.55	295.15	1973	1
3.70	15.92	158.22	757	2	2.56	2.43	871.97	8143	1
3.60	10.00	141.99	764	2	2.55	-2.65	554.80	5074	1
3.50	6.10	145.82	781	2	2.54	11.04	435.19	2699	1
3.40	2.52	149.92	792	2	2.53	8.21	547.38	6839	1
3.30	.44	152.67	799	2	2.52	F	F	15001	1
3.30	.10	153.15	800	2	2.51	R	R	1833	1
3.32	-.25	153.64	801	2	2.50	R	R	1841	1
3.31	-.57	154.14	802	2	2.49	R	R	4971	1
3.30	-.91	154.60	804	2	2.48	F	F	15001	1
3.20	-2.54	157.44	810	2	2.47	R	R	10854	1
3.20	-4.24	160.64	817	2	2.46	R	R	12707	1
3.10	-7.92	168.90	835	2	2.45	R	R	13436	1
3.00	-12.01	182.11	868	2	2.44	F	F	15001	1
2.90	-13.90	192.35	885	2	2.43	R	R	5558	1
2.90	-14.55	207.55	910	2	2.42	2.99	1107.52	9629	1
2.89	-14.27	211.52	927	2	2.41	-6.95	626.05	4740	1
2.80	-13.76	215.95	937	2	2.40	F	F	15001	1
2.81	-12.98	220.92	948	2	2.39	R	R	5358	1
2.81	-11.74	226.50	961	2	2.38	R	R	2178	1
2.80	-10.04	233.07	977	2	2.37	R	R	12662	1
2.84	-7.75	240.72	990	2	2.36	R	R	9870	1
2.80	-4.50	250.12	1020	2	2.35	R	R	7821	1
2.82	-.55	262.45	1052	2	2.34	R	R	7377	1
2.81	3.52	280.64	1094	2	2.33	R	R	9149	1
2.80	1.08	315.22	1191	2	2.32	F	F	15001	1
2.79	12.61	501.17	2409	2	2.31	R	R	8481	1
2.70	N	N	1460	2	2.30	F	F	15001	1
2.71	8.10	475.85	2197	2	2.29	F	F	15001	1
2.70	-19.90	306.72	1503	2	2.28	F	F	15001	1
2.75	14.13	421.67	1623	2	2.27	R	R	5072	1
2.74	N	N	3210	2	2.26	F	F	15001	1
2.75	-1.10	448.65	2401	2	2.25	R	R	1746	1
2.72	-16.34	648.65	5126	2	2.24	R	R	1701	1
2.71	2.60	1043.72	9344	2	2.23	R	R	1679	1
2.70	-1.04	1043.20	8401	1	2.22	R	R	1674	1
2.69	N	N	1360	1	2.21	R	R	1681	1
2.60	N	N	1332	1	2.20	R	R	1702	1
2.61	N	N	1343	1	2.19	F	F	15001	1
2.60	N	N	1419	1	2.10	R	R	7042	1
2.65	7.90	423.12	3260	1	2.05	R	R	3543	1
2.64	9.60	409.38	3874	1	2.00	F	F	15001	1
2.65	-4.54	344.81	2745	1	1.95	F	F	15001	1
2.62	N	N	8285	1	1.90	R	R	1847	1
2.61	-3.84	359.62	2315	1	1.85	F	F	15001	1
2.60	-5.68	554.90	4691	1	1.80	F	F	15001	1
2.59	N	N	2985	1	1.75	R	R	11013	1





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## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 45.00 S

GEOGRAPHIC LONGITUDE = 26.10 E

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
3.90	11.38	147.79	761	2	2.72	-1.90	604.98	4031	2
3.80	6.14	153.04	777	2	2.71	-22.99	975.81	7914	2
3.75	3.40	155.70	780	2	2.70	7.67	401.18	1937	2
3.70	.61	158.60	795	2	2.69	F	F	15000	2
3.60	-4.85	165.00	814	2	2.68	R	R	12858	2
3.50	-9.81	172.71	835	2	2.67	-15.43	2070.17	21817	2
3.40	-13.75	182.20	858	2	2.66	-18.10	1406.75	14340	2
3.30	-16.02	194.98	887	2	2.65	R	R	9144	2
3.25	-16.13	203.19	904	2	2.64	-5.58	254.56	1091	2
3.20	-15.07	213.40	927	2	2.63	R	R	1452	2
3.10	-5.28	246.70	1000	2	2.62	4.23	282.88	1165	2
3.09	-3.28	252.22	1020	2	2.61	R	R	7178	2
3.08	-1.05	258.67	1036	2	2.60	F	F	32000	2
3.07	1.31	266.52	1057	2	2.59	R	R	8043	2
3.06	3.54	267.40	1082	2	2.58	R	R	2042	2
3.05	4.77	290.04	1115	2	2.57	R	R	3804	2
3.04	2.37	310.54	1171	2	2.56	R	R	2033	2
3.03	-12.45	352.94	1287	2	2.55	21.44	1168.68	9413	2
3.02	7.18	451.70	1917	2	2.54	R	R	2119	2
3.01	7.88	379.70	2507	2	2.53	R	R	8706	2
3.00	15.78	488.40	3002	2	2.52	R	R	11661	2
2.99	16.35	405.38	3125	2	2.51	R	R	1965	2
2.98	-3.44	410.55	2450	2	2.50	R	R	13476	2
2.97	-16.70	329.04	1552	2	2.49	F	F	20000	2
2.96	-9.61	242.21	1472	2	2.48	R	R	10035	1
2.95	H	H	1410	2	2.47	R	R	11782	1
2.94	4.60	432.90	2660	2	2.46	R	R	1782	1
2.93	8.00	377.27	1902	2	2.45	R	R	1710	1
2.92	18.00	408.49	3280	2	2.44	F	F	15001	1
2.91	19.41	409.20	2103	2	2.43	F	F	15001	1
2.90	1.15	508.81	4021	2	2.42	R	R	3196	1
2.89	12.10	405.00	2380	2	2.41	F	F	15001	1
2.88	11.95	771.12	5222	2	2.40	F	F	15001	1
2.87	H	H	1247	2	2.39	F	F	15001	1
2.86	H	H	1134	2	2.38	R	R	14202	1
2.85	H	H	1115	2	2.37	F	F	15001	1
2.84	H	H	1100	2	2.36	R	R	5694	1
2.83	H	H	1115	2	2.35	F	F	15001	1
2.82	H	H	1140	2	2.34	R	R	5546	1
2.81	H	H	3731	2	2.33	F	F	15001	1
2.80	3.64	657.72	3945	2	2.32	R	R	5201	1
2.79	H	H	2235	2	2.31	F	F	15001	1
2.78	13.75	1211.95	11020	2	2.30	R	R	6737	1
2.77	7.71	472.37	2675	2	2.29	R	R	9704	1
2.76	-1.07	805.04	4914	2	2.28	R	R	7427	1
2.75	23.05	842.95	6295	2	2.27	R	R	12623	1
2.74	H	H	6014	2	2.26	R	R	3365	1
2.73	8.67	1123.80	10253	2	2.25	R	R	1250	1

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SOTA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 45.00 S

GEOGRAPHIC LONGITUDE = 26.10 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS
2.20	F	F	15001	1
2.15	K	K	13040	1
2.10	K	K	10555	1
2.05	K	K	3247	1
2.00	F	F	15001	1
1.95	K	K	7191	1
1.90	F	F	15001	1
1.85	K	K	13701	1
1.80	F	F	15001	1
1.75	K	K	3854	1
1.70	F	F	15001	1

P	ASYMPTOTIC LAT	LONG	NSTEP	SS
1.65	R	R	8994	1
1.60	F	F	15001	1
1.55	F	F	15001	1
1.50	F	F	15001	1
1.45	F	F	15001	1
1.40	R	R	9177	1
1.35	R	R	1263	1
1.30	R	R	1207	1
1.25	R	R	1323	1
1.20	F	F	15001	1
0.36	R	R	2677	1

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 43.10 S

GEOGRAPHIC LONGITUDE = 25.30 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.00	-4.40	104.00	790	2	3.20	R	R	1131	2
3.90	-4.11	104.59	809	2	3.19	R	R	1150	2
3.90	-7.90	173.80	824	2	3.18	R	R	1213	2
3.80	-11.70	100.00	842	2	3.17	R	R	2618	2
3.80	-15.09	107.70	862	2	3.16	R	R	0512	2
3.70	-17.54	197.40	885	2	3.15	20.39	470.97	3629	2
3.70	-18.07	209.82	915	2	3.14	R	R	3336	2
3.60	-14.97	225.92	954	2	3.13	-1.59	531.79	5326	2
3.60	-5.62	244.21	1012	2	3.12	R	R	9469	2
3.50	-2.77	254.10	1020	2	3.11	R	R	2157	2
3.50	.32	201.12	1047	2	3.10	-3.94	348.13	2426	2
3.50	3.49	209.50	1070	2	3.09	3.58	542.44	3656	2
3.50	6.19	200.30	1099	2	3.08	4.57	1302.93	10999	2
3.50	7.00	245.21	1139	2	3.07	R	R	0024	2
3.54	1.79	317.52	1199	2	3.06	R	R	4730	2
3.50	-18.74	307.91	1336	2	3.05	-12.07	612.78	4440	2
3.52	7.59	371.29	1761	2	3.04	-10.24	1421.35	8490	2
3.51	-4.89	491.89	2555	2	3.03	R	R	7966	2
3.50	15.25	441.40	2550	2	3.02	4.86	950.01	8586	2
3.49	9.30	394.00	2160	2	3.01	R	R	2364	2
3.40	1.10	303.30	2002	2	3.00	R	R	7275	2
3.40	R	R	2021	2	2.99	R	R	15000	2
3.40	-23.79	301.22	1522	2	2.98	2.82	731.93	5079	2
3.40	-10.39	272.27	1462	2	2.97	R	R	3306	2
3.44	-4.07	206.87	1495	2	2.96	-7.17	557.53	3328	2
3.40	24.80	428.14	1900	2	2.95	-2.06	525.63	3914	2
3.42	-15.80	342.20	2112	2	2.94	5.43	566.81	3717	2
3.41	14.70	406.04	3080	2	2.93	R	R	6736	2
3.40	-23.72	300.89	1739	2	2.92	R	R	7056	2
3.39	-15.00	300.65	1724	2	2.91	R	R	1834	2
3.30	20.60	407.74	3004	2	2.90	R	R	18972	2
3.30	-7.40	352.47	1980	2	2.89	R	R	11364	2
3.30	12.20	397.84	2110	2	2.88	-10.58	1044.56	8752	2
3.30	20.21	403.25	3167	2	2.87	F	F	15000	2
3.34	-1.14	603.00	5062	2	2.86	-3.16	754.78	6802	2
3.30	-0.90	306.47	2145	2	2.85	R	R	9295	2
3.32	-4.67	371.39	2222	2	2.84	R	R	8358	2
3.31	0.04	403.59	3080	2	2.83	R	R	1604	2
3.30	R	R	1202	2	2.82	R	R	1057	2
3.29	R	R	1161	2	2.81	R	R	1488	2
3.20	R	R	1127	2	2.80	R	R	1720	2
3.20	R	R	1110	2	2.79	R	R	10156	2
3.20	R	R	1110	2	2.78	R	R	4664	2
3.20	R	R	1107	2	2.77	R	R	7459	2
3.24	R	R	1100	2	2.76	R	R	2657	2
3.20	R	R	1100	2	2.75	1.83	1229.87	12652	1
3.22	R	R	1110	2	2.74	F	F	15001	1
3.21	R	R	1120	2	2.73	R	R	3980	1

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SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 43.10 S

GEOGRAPHIC LONGITUDE = 25.30 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
2.72	K	K	2304	1	2.45	F	F	15001	1
2.71	K	K	12140	1	2.40	R	R	8640	1
2.70	K	K	4924	1	2.35	R	R	9907	1
2.69	F	F	15001	1	2.30	R	R	13960	1
2.68	K	K	2240	1	2.28	R	R	15402	2
2.67	F	F	15001	1	2.26	R	R	15546	2
2.66	F	F	15001	1	2.25	R	R	2026	1
2.65	F	F	15001	1	2.24	R	R	1672	2
2.64	K	K	3241	1	2.22	R	R	1650	1
2.63	K	K	11541	1	2.20	R	R	1924	1
2.62	K	K	1645	1	2.15	R	R	1910	1
2.61	K	K	1628	1	2.10	R	R	1906	1
2.60	K	K	1710	1	2.05	R	R	1927	1
2.59	K	K	11254	1	2.00	R	R	1901	1
2.58	K	K	9674	1	1.95	R	R	5706	1
2.57	K	K	9928	1	1.90	R	R	7420	1
2.56	F	F	15001	1	1.85	R	R	8132	1
2.55	K	K	2298	1	1.80	F	F	15001	1
2.54	F	F	15001	1	1.75	R	R	6606	1
2.53	F	F	15001	1	1.70	R	R	2728	1
2.52	K	K	7461	1	1.65	R	R	1169	1
2.51	F	F	15001	1	1.60	R	R	1186	1
2.50	K	K	3401	1	1.55	F	F	15001	1
2.49	F	F	15001	1	1.50	R	R	10917	1
2.48	K	K	3552	1	1.45	R	K	2308	1
2.47	K	K	11990	1	1.40	R	R	2558	1
2.46	K	K	6198	1	0.66	R	R	1597	1
					0.56	R	R	1805	1

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 42.60 S

GEOGRAPHIC LONGITUDE = 21.70 E

P	ASYMPTOTIC LAT	LONG	1 STEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.20	7.30	152.91	769	2	3.37	-7.90	321.18	2357	2
4.20	4.20	156.70	779	2	3.36	-1.43	519.16	4488	2
4.15	.80	101.05	791	2	3.35	-21.00	319.08	1926	2
4.10	-2.81	105.84	805	2	3.34	-19.85	288.66	1859	2
4.05	-6.70	171.52	821	2	3.33	14.24	507.93	3038	2
4.00	-10.74	178.37	840	2	3.32	R	R	2034	2
3.95	-14.50	187.04	862	2	3.31	-1.32	507.24	3047	2
3.90	-17.20	198.54	891	2	3.30	-6.46	322.45	2298	2
3.85	-17.10	214.30	924	2	3.29	R	R	4502	2
3.80	-10.65	236.85	985	2	3.28	8.66	437.41	3662	2
3.75	6.20	201.02	1105	2	3.27	9.69	1230.79	10745	2
3.74	6.25	301.60	1159	2	3.26	-4.27	348.97	2248	2
3.73	-9.34	340.90	1264	2	3.25	R	R	2787	2
3.72	1.61	457.34	1491	2	3.24	-13.17	706.96	5127	2
3.71	24.65	401.45	2595	2	3.23	-10.16	345.91	1860	2
3.70	7.15	420.31	2534	2	3.22	-18.29	301.42	1749	2
3.69	.60	328.40	1677	2	3.21	-10.54	292.33	1729	2
3.60	7.55	756.00	4854	2	3.20	-13.85	300.52	1750	2
3.67	-16.37	276.40	1484	2	3.19	-2.65	340.16	1853	2
3.60	-3.40	279.84	1490	2	3.18	R	R	5138	2
3.65	8.94	927.17	8034	2	3.17	-8.35	340.88	3452	2
3.64	3.20	340.87	2210	2	3.16	2.58	611.50	4103	2
3.65	-24.74	313.11	1790	2	3.15	R	R	1842	2
3.62	-19.05	310.22	1770	2	3.14	17.86	476.56	3799	2
3.61	-7.92	306.57	2808	2	3.13	9.18	965.73	8640	2
3.60	-18.60	249.51	1860	2	3.12	R	R	3441	2
3.59	12.62	379.44	2180	2	3.11	R	R	2375	2
3.50	12.78	445.14	3330	2	3.10	R	R	13742	2
3.57	14.14	405.47	4414	2	3.09	R	R	7171	2
3.50	2.64	345.62	2095	2	3.08	R	R	9243	2
3.55	N	N	1245	2	3.07	-6.52	968.58	7476	2
3.54	N	N	1172	2	3.06	R	R	4615	2
3.55	N	N	1150	2	3.05	R	R	9358	2
3.52	N	N	1152	2	3.04	.53	748.46	6226	2
3.51	N	N	1150	2	3.03	R	R	6542	2
3.50	N	N	1160	2	3.02	F	F	15000	2
3.49	N	N	1195	2	3.01	R	N	4771	2
3.40	20.12	428.30	3062	2	3.00	R	R	1519	2
3.47	-7.34	403.67	3375	2	2.99	R	R	1726	1
3.40	4.70	344.82	2797	2	2.98	R	R	1718	1
3.45	-13.70	345.07	2170	2	2.97	R	R	1730	1
3.44	-5.15	527.62	3749	2	2.96	R	R	1751	1
3.45	-20.94	325.74	2074	2	2.95	R	R	12641	1
3.42	N	N	2210	2	2.94	F	F	15001	1
3.41	16.22	403.44	3462	2	2.93	R	R	11923	1
3.40	-22.71	304.94	1985	2	2.92	F	F	15001	1
3.39	-1.44	444.14	3710	2	2.91	R	R	4505	1
3.30	14.21	352.10	2732	2	2.90	F	F	15001	1

SOTA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 42.00 S

GEOGRAPHIC LONGITUDE = 21.70 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS
2.89	K	K	12961	1
2.80	K	K	11500	1
2.81	K	K	11701	1
2.80	F	F	15001	1
2.80	K	K	5814	1
2.84	K	K	8762	1
2.85	K	K	2367	1
2.82	K	K	6114	1
2.81	K	K	2624	1
2.80	K	K	2890	1
2.79	F	F	15001	1
2.70	K	K	2210	1
2.71	K	K	2861	1
2.70	K	K	6995	1
2.70	K	K	11237	1
2.74	F	F	15001	1
2.75	K	K	13511	1
2.72	K	K	6517	1
2.71	K	K	1755	1
2.70	K	K	1628	1
2.69	K	K	1609	1
2.60	K	K	1632	1

P	ASYMPTOTIC LAT	LONG	NSTEP	SS
2.63	R	R	8852	1
2.58	K	K	7211	1
2.53	R	R	6896	1
2.48	R	R	13666	1
2.43	R	R	9393	1
2.38	R	K	1985	1
2.33	F	F	15001	1
2.28	R	R	8908	1
2.23	F	F	15001	1
2.18	F	F	15001	1
2.13	F	F	15001	1
2.08	R	R	3877	1
2.03	K	R	10721	1
1.98	R	R	1982	1
1.93	F	F	15001	1
1.88	R	R	3606	1
1.83	F	F	15001	1
1.78	R	R	2125	1
1.73	F	F	15001	1
1.68	R	R	1160	1
1.63	R	R	1079	1
0.81	K	R	1392	1
0.79	R	R	1418	1

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 41.70 S

GEOGRAPHIC LONGITUDE = 22.20 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
6.04	27.74	47.31	669	2	3.97	-17.38	213.89	921	2
4.90	22.42	124.93	705	2	3.96	-16.96	217.75	930	2
4.80	20.90	129.19	713	2	3.95	-16.26	221.94	940	2
4.70	19.08	133.90	721	2	3.94	-15.22	226.47	951	2
4.60	16.50	139.11	732	2	3.93	-13.78	231.41	963	2
4.55	15.02	141.93	738	2	3.92	-11.87	236.87	978	2
4.54	14.64	142.50	739	2	3.91	-9.42	242.94	993	2
4.53	14.34	143.04	741	2	3.90	-6.34	249.89	1102	2
4.52	13.99	143.64	742	2	3.89	-2.63	258.12	1034	2
4.51	13.62	144.24	744	2	3.88	1.57	268.50	1063	2
4.50	13.25	144.90	745	2	3.87	5.48	282.76	1102	2
4.49	12.87	145.52	747	2	3.86	5.71	305.17	1161	2
4.48	12.48	146.14	748	2	3.85	-13.06	354.00	1295	2
4.47	12.07	146.70	749	2	3.84	23.51	424.44	1950	2
4.46	11.60	147.41	751	2	3.83	R	R	1401	2
4.45	11.23	148.00	753	2	3.82	-4.77	736.38	4480	2
4.44	10.80	148.70	754	2	3.81	24.39	449.64	3056	2
4.43	10.35	149.30	755	2	3.80	-23.08	298.23	1536	2
4.42	9.89	150.04	757	2	3.79	-5.22	279.14	1498	2
4.41	9.42	150.73	759	2	3.78	-1.14	611.38	4347	2
4.40	8.94	151.41	760	2	3.77	-4.37	409.70	2405	2
4.39	8.44	152.12	762	2	3.76	-20.03	289.85	1737	2
4.38	7.94	152.83	764	2	3.75	.64	431.58	2972	2
4.37	7.41	153.50	766	2	3.74	-24.05	303.38	1886	2
4.36	6.34	155.05	770	2	3.73	-.94	482.62	3140	2
4.35	3.41	159.01	780	2	3.72	-3.12	395.98	3026	2
4.25	.14	163.42	793	2	3.71	.37	525.58	4117	2
4.20	-3.40	168.40	807	2	3.70	7.87	600.84	5000	2
4.17	-5.70	171.80	810	2	3.69	R	R	1167	2
4.16	-6.54	173.11	819	2	3.68	R	R	1149	2
4.15	-7.33	174.38	822	2	3.67	R	R	1143	2
4.14	-8.12	175.72	826	2	3.66	R	R	1146	2
4.13	-8.92	177.11	830	2	3.65	R	R	1156	2
4.12	-9.72	178.57	834	2	3.64	R	R	1176	2
4.11	-10.51	180.04	838	2	3.63	R	R	1201	2
4.10	-11.30	181.64	842	2	3.62	-2.93	560.88	5284	2
4.09	-12.08	183.30	846	2	3.61	-4.30	417.20	3304	2
4.08	-12.85	185.15	851	2	3.60	5.98	464.73	3745	2
4.07	-13.54	187.02	856	2	3.59	-22.93	304.22	2048	2
4.06	-14.30	189.00	860	2	3.58	12.37	464.09	3951	2
4.05	-14.98	191.10	866	2	3.57	-21.57	326.67	2031	2
4.04	-15.61	193.35	871	2	3.56	-2.76	386.26	2604	2
4.03	-16.18	195.72	876	2	3.55	3.49	404.44	3010	2
4.02	-16.68	198.25	884	2	3.54	7.51	553.07	3813	2
4.01	-17.04	200.95	890	2	3.53	-22.72	302.04	1886	2
4.00	-17.40	203.85	897	2	3.52	-20.08	290.48	1865	2
3.99	-17.50	206.91	905	2	3.51	21.51	453.18	3345	2
3.98	-17.57	210.31	913	2	3.50	-12.87	368.76	2670	2



SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 41.70 S

GEOGRAPHIC LONGITUDE = 22.20 E

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
3.44	-6.81	321.47	2302	2	3.14	R	R	1577	2
3.46	7.61	494.32	4058	2	3.13	R	R	9133	2
3.47	9.43	407.50	4255	2	3.12	R	R	9405	2
3.40	13.74	948.84	6092	2	3.11	R	R	11747	2
3.45	K	K	4940	2	3.10	R	R	2997	2
3.44	-21.55	306.22	1763	2	3.09	R	R	4166	2
3.43	-16.28	275.53	1691	2	3.08	R	R	9654	2
3.42	-13.22	209.43	1679	2	3.07	F	F	15000	2
3.41	-15.84	278.23	1701	2	3.06	R	R	7912	2
3.40	-8.52	311.70	1784	2	3.05	R	R	3756	2
3.39	K	K	3461	2	3.04	F	F	15000	2
3.30	.04	407.60	2020	2	3.03	F	F	15000	1
3.37	K	K	1905	2	3.02	R	R	13751	1
3.36	K	K	7206	2	3.01	R	R	5277	2
3.35	K	K	6224	2	3.00	R	R	14976	1
3.34	K	K	3845	2	2.95	R	R	2268	1
3.33	K	K	2338	2	2.90	R	R	14654	1
3.32	-9.10	309.73	2335	2	2.85	R	R	13832	1
3.31	-7.74	508.24	3348	2	2.80	R	R	4124	1
3.30	K	K	4780	2	2.75	R	R	1615	1
3.29	15.33	704.10	7343	2	2.70	F	F	15001	1
3.20	K	K	5984	2	2.65	F	F	15001	1
3.27	K	K	6133	2	2.60	R	R	12970	1
3.26	-9.40	900.60	9674	2	2.55	R	R	3763	1
3.25	K	K	4227	2	2.50	F	F	15001	1
3.24	-4.64	548.84	5760	2	2.45	R	R	2609	1
3.23	K	K	14464	2	2.40	R	R	6095	1
3.22	K	K	1502	2	2.35	R	R	2161	1
3.21	K	K	1511	2	2.30	R	R	5731	1
3.20	K	K	1493	2	2.25	F	F	15001	1
3.19	K	K	1485	2	2.20	R	R	5168	1
3.18	K	K	1484	2	2.15	R	R	13678	1
3.17	K	K	1492	2	2.10	R	R	10356	1
3.16	K	K	1500	2	2.05	R	R	3125	1
3.15	K	K	1524	2	2.00	R	R	2079	1

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 39.80 S

GEOGRAPHIC LONGITUDE = 22.50 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
15.00	10.90	03.40	109	10	3.92	R	R	1319	1
14.00	14.54	05.21	111	10	3.91	R	R	1362	1
13.00	18.35	07.20	150	9	3.90	R	R	1424	1
12.00	22.30	09.95	160	9	3.89	-0.03	1008.72	10668	1
11.00	26.17	13.39	211	8	3.88	-7.96	1041.18	10568	1
10.00	29.54	14.00	262	7	3.87	11.00	493.46	5729	1
9.00	31.75	03.92	260	7	3.86	-19.41	331.03	2378	1
8.00	31.95	41.00	319	6	3.85	R	R	4323	1
7.00	29.75	49.30	389	5	3.84	15.40	424.83	3827	1
6.00	25.47	111.04	395	5	3.83	-20.89	298.22	2185	1
5.00	16.15	136.81	720	2	3.82	F	F	15001	1
4.90	14.04	141.22	735	2	3.81	.47	672.86	7207	1
4.80	11.40	146.20	740	2	3.80	-14.08	688.86	6812	1
4.75	9.85	148.90	752	2	3.79	F	F	15001	1
4.70	8.07	151.92	750	2	3.78	R	R	2444	1
4.60	3.87	158.65	774	2	3.77	-19.50	293.44	2024	1
4.50	-1.40	166.94	795	2	3.76	-15.63	273.67	1968	1
4.40	-7.77	177.40	824	2	3.75	-14.48	296.49	2039	1
4.30	-14.41	194.80	860	2	3.74	13.76	843.36	8802	1
4.25	-16.55	207.79	897	2	3.73	R	R	2223	1
4.20	-15.39	206.47	941	2	3.72	15.47	816.03	8996	1
4.14	-14.30	231.27	955	2	3.71	-.85	670.05	7328	1
4.10	-12.95	236.50	960	2	3.70	-0.12	334.86	2507	1
4.17	-11.00	242.49	981	2	3.69	10.78	411.62	4060	1
4.10	-8.50	249.25	999	2	3.68	-4.32	584.02	5241	1
4.15	-5.34	257.10	1020	2	3.67	R	R	2977	1
4.14	-1.52	266.94	1040	2	3.66	R	R	10174	1
4.15	2.61	279.90	1081	2	3.65	F	F	15001	1
4.12	5.17	299.75	1135	2	3.64	R	R	1791	1
4.11	3.70	304.37	1230	2	3.63	R	R	1796	1
4.10	16.14	346.07	1041	2	3.62	R	R	5038	1
4.09	H	H	1045	1	3.61	R	R	4462	1
4.00	10.60	444.11	3381	1	3.60	-15.56	731.87	6828	1
4.07	-5.29	378.31	2922	1	3.59	-9.41	707.84	6030	1
4.00	-14.67	297.60	1810	1	3.58	R	R	7735	1
4.05	-7.25	307.25	1851	1	3.57	3.88	583.15	5785	1
4.04	-12.35	601.67	8440	1	3.56	R	R	5208	1
4.05	H	H	2067	1	3.55	.15	1238.40	12290	1
4.02	-3.70	717.60	5304	1	3.54	8.23	424.19	2576	1
4.01	-23.30	318.80	2254	1	3.53	R	R	8012	1
4.00	13.41	307.65	2591	1	3.52	R	R	14456	1
3.99	-4.62	373.55	2622	1	3.51	R	R	4504	1
3.90	H	H	1485	1	3.50	-2.91	640.03	5585	1
3.97	H	H	1334	1	3.49	R	R	6506	1
3.90	H	H	1308	1	3.48	-9.30	561.39	4242	1
3.95	H	H	1292	1	3.47	1.86	566.70	3787	1
3.94	H	H	1284	1	3.46	-10.73	677.84	3799	1
3.95	H	H	1300	1	3.45	R	R	12147	1

## SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 39.80 S

GEOGRAPHIC LONGITUDE = 22.50

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP
	LAT	LONG				LAT	LONG	
3.44	F	F	15001	1	3.13	R	R	1720
3.43	K	K	2525	1	3.12	R	R	1672
3.42	K	K	5049	1	3.11	R	R	1639
3.41	2.76	913.96	8634	1	3.10	R	R	1624
3.40	K	K	7303	1	3.09	R	R	1615
3.39	23.56	1174.55	11387	1	3.08	R	R	1609
3.38	5.07	1255.02	11906	1	3.07	R	R	1606
3.37	K	K	9663	1	3.06	R	R	1607
3.36	K	K	2346	1	3.05	K	R	1611
3.35	F	F	15001	1	3.00	R	R	1769
3.34	K	K	6191	1	2.95	R	R	11314
3.33	K	K	4429	1	2.90	F	F	15001
3.32	K	K	8609	1	2.85	R	R	2279
3.31	F	F	15001	1	2.80	F	F	15001
3.30	K	K	9460	1	2.75	R	R	6173
3.29	K	K	2289	1	2.70	R	R	6064
3.28	K	K	12819	1	2.65	R	R	1828
3.27	F	F	15001	1	2.60	R	R	7270
3.26	K	K	7636	1	2.55	R	R	3221
3.25	K	K	9505	1	2.50	R	R	1917
3.24	F	F	15001	1	2.45	R	R	11369
3.23	K	K	7026	1	2.40	F	F	15001
3.22	K	K	5471	1	2.35	R	R	2306
3.21	K	K	5316	1	2.30	R	R	391
3.20	K	K	9496	1	2.25	R	R	4234
3.19	K	K	9521	1	2.20	R	R	8126
3.18	K	K	7494	1	2.15	R	R	1217
3.17	K	K	5810	1	2.10	R	R	5203
3.16	K	K	10284	1	2.05	R	R	2394
3.15	F	F	15001	1	2.00	R	R	2084
3.14	K	K	12013	1	1.16	R	R	1095

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 38.40 S

GEOGRAPHIC LONGITUDE = 20.00 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
5.40	14.40	134.15	730	2	4.12	R	R	2478	2
5.40	13.65	135.60	735	2	4.11	R	R	2326	2
5.30	12.84	137.25	730	2	4.10	-4.16	354.02	2575	2
5.30	11.97	138.94	739	2	4.09	R	R	11193	2
5.20	11.04	140.75	742	2	4.08	-4.01	347.18	2471	2
5.20	10.05	142.65	747	2	4.07	-9.25	534.71	4467	2
5.10	8.94	144.64	751	2	4.06	8.18	379.75	2098	2
5.10	7.70	146.84	750	2	4.05	R	R	2991	2
5.00	6.47	149.24	760	2	4.04	-16.43	731.79	5900	2
5.00	5.05	151.80	760	2	4.03	21.68	461.67	3167	2
4.90	3.50	154.50	772	2	4.02	R	R	4337	2
4.90	1.80	157.54	779	2	4.01	-16.87	331.90	1830	2
4.80	-2.10	164.32	797	2	4.00	-16.60	253.10	1738	2
4.70	-4.35	169.12	807	2	3.99	4.18	374.71	1953	2
4.70	-6.71	174.15	820	2	3.98	11.69	432.59	3267	2
4.60	-9.25	180.00	834	2	3.97	7.05	910.62	9144	2
4.60	-11.75	187.35	851	2	3.96	R	R	2677	2
4.50	-13.95	196.50	873	2	3.95	-5.97	383.39	2273	2
4.50	-15.11	208.85	902	2	3.94	R	R	3640	2
4.40	-13.60	226.20	944	2	3.93	R	R	5163	2
4.40	-5.35	254.30	1015	2	3.92	R	R	15000	2
4.30	-2.34	283.05	1038	2	3.91	R	R	5667	2
4.30	.90	274.14	1067	2	3.90	R	R	1518	2
4.30	3.75	269.71	1108	2	3.89	R	R	1527	2
4.30	2.20	315.30	1175	2	3.88	R	R	8765	2
4.30	-13.94	345.35	1380	2	3.87	R	R	7237	2
4.30	6.02	908.32	5414	2	3.86	R	R	8224	2
4.30	R	R	1364	2	3.85	R	R	2426	2
4.30	20.45	402.91	2087	2	3.84	-2.55	961.94	8775	2
4.30	R	R	2894	2	3.83	R	R	2840	2
4.30	-17.24	248.22	1550	2	3.82	-7.57	728.07	3361	2
4.20	-12.60	325.67	1634	2	3.81	-23.78	255.74	3780	2
4.20	9.15	438.97	3031	2	3.80	R	R	2281	2
4.20	-8.32	559.47	3404	2	3.79	R	R	2264	2
4.20	9.94	407.00	2067	2	3.78	-7.95	732.30	5945	2
4.20	-1.61	404.50	3042	2	3.77	6.35	887.53	5904	2
4.20	R	R	4432	2	3.76	10.20	498.91	2400	2
4.20	-1.90	426.04	2400	2	3.75	R	R	3729	2
4.20	R	R	1280	2	3.74	-17.74	697.17	5187	2
4.20	R	R	1151	2	3.73	R	R	5441	2
4.20	R	R	1131	2	3.72	-5.84	1004.60	9421	2
4.10	R	R	1114	2	3.71	-6.57	1045.34	9924	2
4.10	R	R	1110	2	3.70	R	R	2087	2
4.10	R	R	1107	2	3.69	-6.77	697.13	5597	2
4.10	R	R	1104	2	3.68	R	R	10056	2
4.10	R	R	1115	2	3.67	R	R	3601	2
4.10	R	R	1128	2	3.66	R	R	2105	2
4.10	R	R	1202	2	3.65	.08	875.85	8045	2

## SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 38.40 S

GEOGRAPHIC LONGITUDE = 20.00 E

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
3.64	K	K	5284	2	3.33	R	R	10235	1
3.63	K	K	14622	2	3.32	R	R	12491	1
3.62	K	K	12329	2	3.31	R	R	3074	1
3.61	F	F	15000	2	3.30	R	R	8105	1
3.60	K	K	11950	2	3.29	R	R	4327	1
3.59	K	K	6375	2	3.28	R	R	3487	1
3.58	K	K	1525	2	3.27	R	R	6465	1
3.57	K	K	1460	2	3.26	F	F	15001	1
3.56	K	K	1460	2	3.25	R	R	6552	1
3.55	K	K	1457	2	3.20	F	F	15001	1
3.54	K	K	1471	2	3.15	R	R	10930	1
3.53	K	K	6685	2	3.10	R	R	7282	1
3.52	F	F	15000	2	3.05	R	R	6312	1
3.51	K	K	6246	2	3.00	R	R	9558	1
3.50	K	K	11052	2	2.95	R	R	3700	1
3.49	K	K	6962	2	2.90	R	R	5521	1
3.48	K	K	12069	2	2.85	R	R	1935	1
3.47	F	F	15000	2	2.80	R	R	1687	1
3.46	K	K	7171	2	2.75	R	R	9368	1
3.45	K	K	4290	2	2.70	R	R	13656	1
3.44	F	F	15001	1	2.65	R	R	3060	1
3.43	K	K	7059	1	2.60	R	R	5148	1
3.42	K	K	3881	1	2.55	R	R	7300	1
3.41	K	K	2307	1	2.50	R	R	14617	1
3.40	K	K	6977	1	2.45	F	F	15001	1
3.39	F	F	15001	1	2.40	R	R	7022	1
3.38	K	K	5390	1	2.35	R	R	2958	1
3.37	K	K	2450	1	2.30	F	F	15001	1
3.36	K	K	4697	1	2.25	R	R	1000	1
3.35	F	F	15001	1	2.20	R	R	963	1
3.34	K	K	12780	1	1.36	R	R	1047	1

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 35.10 S

GEOGRAPHIC LONGITUDE = 20.40 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
8.00	27.00	119.70	703	2	4.74	R	R	1192	2
7.75	24.91	123.00	710	2	4.73	R	R	1150	2
7.50	22.50	126.20	717	2	4.72	R	R	1116	2
7.25	19.70	129.61	725	2	4.71	R	R	1095	2
7.00	16.75	133.14	734	2	4.70	R	R	1084	2
6.75	13.42	136.90	743	2	4.69	R	R	1077	2
6.50	9.79	141.32	753	2	4.68	R	P	1073	2
6.25	5.81	146.47	765	2	4.67	R	R	1073	2
6.00	1.40	152.94	780	2	4.66	R	R	1076	2
5.75	-3.50	161.69	800	2	4.65	R	R	1080	2
5.50	-9.15	174.82	830	2	4.64	R	R	1087	2
5.40	-11.39	182.30	846	2	4.63	R	R	1095	2
5.30	-13.27	192.20	871	2	4.62	R	R	1107	2
5.25	-13.87	198.50	885	2	4.61	R	R	1125	2
5.20	-14.00	205.97	902	2	4.60	16.92	448.98	4102	2
5.15	-13.34	215.10	924	2	4.59	2.00	392.71	2841	2
5.10	-11.30	226.80	952	2	4.58	R	R	3694	2
5.05	-6.92	242.80	992	2	4.57	R	R	3850	2
5.04	-5.65	246.80	1003	2	4.56	-12.12	621.23	5196	2
5.03	-4.23	251.30	1014	2	4.55	R	R	5276	2
5.02	-2.60	256.40	1027	2	4.54	R	R	10353	2
5.01	-.90	262.10	1042	2	4.53	R	R	4625	2
5.00	.70	268.90	1060	2	4.52	R	R	5144	2
4.99	2.30	277.10	1082	2	4.51	R	R	2024	2
4.90	3.47	287.50	1109	2	4.50	R	R	2416	2
4.97	3.00	301.60	1145	2	4.49	R	R	12734	2
4.90	-1.40	322.70	1201	2	4.48	R	R	6595	2
4.95	-14.95	309.60	1325	2	4.47	R	R	4526	2
4.94	-5.40	1020.80	8054	2	4.46	5.02	551.36	4820	2
4.93	R	R	8057	2	4.45	6.90	906.94	7632	2
4.92	R	R	1314	2	4.44	R	R	3983	2
4.91	11.23	740.70	5230	2	4.43	.40	604.63	3724	2
4.90	-5.04	445.30	3480	2	4.42	-1.34	570.60	3690	2
4.89	11.22	444.82	3210	2	4.41	R	R	1845	2
4.88	3.75	507.20	4102	2	4.40	-0.95	514.77	4681	2
4.87	-18.32	310.00	1664	2	4.39	R	R	7886	2
4.86	-11.32	248.30	1620	2	4.38	-5.58	690.34	6720	2
4.85	-17.42	346.80	1772	2	4.37	11.25	787.35	6455	2
4.84	9.47	326.87	4245	2	4.36	R	R	6366	2
4.83	-7.00	651.07	5594	2	4.35	R	R	8318	2
4.82	R	R	2120	2	4.34	R	R	3680	2
4.81	-19.33	316.24	1881	2	4.33	R	R	13657	2
4.80	13.40	411.00	3203	2	4.32	R	R	1475	2
4.79	7.41	802.21	3440	2	4.31	R	R	1495	2
4.78	-16.24	355.17	2075	2	4.30	R	R	1502	2
4.77	R	R	9170	2	4.29	R	R	1512	2
4.76	8.53	402.33	3387	2	4.28	R	R	1579	2
4.75	R	R	2510	2	4.27	R	R	7896	2

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SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 35.10 S

GEOGRAPHIC LONGITUDE = 20.40 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.20	K	K	5599	2	4.02	R	R	1613	1
4.20	K	K	4480	1	4.01	R	R	1584	1
4.24	K	K	4890	1	4.00	R	R	1574	1
4.20	K	K	6933	1	3.95	F	F	15001	1
4.22	K	K	4890	1	3.90	F	F	15001	1
4.21	-16.69	986.11	11572	1	3.85	R	R	5899	1
4.20	F	F	15001	1	3.80	R	R	7661	1
4.19	K	K	5363	1	3.75	R	R	8027	1
4.18	K	K	2503	1	3.70	R	R	1728	1
4.17	K	K	2410	1	3.65	R	R	6981	1
4.16	K	K	2402	1	3.60	R	R	8788	1
4.15	K	K	2495	1	3.55	R	R	10778	1
4.14	K	K	4042	1	3.50	R	R	5381	1
4.13	K	K	6572	1	3.45	R	R	1790	1
4.12	K	K	6762	1	3.40	R	R	3210	1
4.11	K	K	4240	1	3.35	R	R	4206	1
4.10	K	K	2467	1	3.30	R	R	6952	1
4.09	F	F	15001	1	3.25	R	R	5215	1
4.08	K	K	5213	1	3.20	F	F	15001	1
4.07	K	K	8220	1	3.15	F	F	15001	1
4.06	K	K	4402	1	3.10	F	F	15001	1
4.05	K	K	13750	1	3.05	R	R	9028	1
4.04	K	K	3642	1	3.00	R	R	6859	1
4.03	K	K	1671	1	2.16	R	R	727	2

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 35.10 S

GEOGRAPHIC LONGITUDE = 25.70 E

	ASYMPTOTIC		NSTEP	SS		ASYMPTOTIC		NSTEP	SS
	LAT	LONG			P	LAT	LONG		
60	5.60	152.14	762	2	4.72	-1.20	589.70	3318	2
50	4.81	153.40	765	2	4.71	-14.19	372.61	2006	2
40	3.93	154.85	767	2	4.70	-6.10	347.43	2434	2
30	3.02	156.33	771	2	4.69	-17.60	345.86	2040	2
20	2.00	157.84	774	2	4.68	20.08	442.09	3933	2
10	1.10	159.57	776	2	4.67	14.56	521.49	4784	2
00	.00	161.30	782	2	4.66	-8.46	1006.98	9693	2
00	-.90	163.29	780	2	4.65	R	R	1191	2
10	-2.00	165.30	791	2	4.64	R	R	1151	2
20	-3.24	167.64	790	2	4.63	R	R	1122	2
30	-4.44	170.11	802	2	4.62	R	R	1103	2
40	-5.64	172.82	800	2	4.61	R	R	1093	2
50	-6.94	175.83	815	2	4.60	R	R	1088	2
60	-8.33	179.14	822	2	4.59	R	R	1087	2
70	-9.70	182.90	831	2	4.58	R	R	1089	2
80	-11.07	187.32	841	2	4.57	R	R	1093	2
90	-12.34	192.34	853	2	4.56	R	R	1100	2
00	-13.57	198.20	867	2	4.55	R	R	1111	2
10	-14.40	205.30	883	2	4.54	R	R	1128	2
20	-14.70	214.15	903	2	4.53	R	R	3481	2
30	-13.95	225.33	929	2	4.52	10.94	425.88	2897	2
40	-13.50	227.90	936	2	4.51	R	R	2280	2
50	-13.11	230.70	943	2	4.50	-5.50	1273.58	12003	2
60	-12.54	233.74	950	2	4.49	-10.78	575.82	4036	2
70	-11.84	236.90	957	2	4.48	R	R	3683	2
80	-11.01	240.30	960	2	4.47	R	R	6703	2
90	-7.72	252.42	997	2	4.46	3.51	501.18	4407	2
00	-8.80	248.13	980	2	4.45	-1.03	643.72	4729	2
10	-7.50	252.60	997	2	4.44	-17.30	1048.97	8054	2
20	-5.94	257.60	1010	2	4.43	-10.69	609.28	4910	2
30	-4.10	263.20	1025	2	4.42	R	R	3934	2
40	-2.10	269.80	1042	2	4.41	R	R	6916	2
50	-.10	277.82	1063	2	4.40	R	R	10131	2
60	1.83	287.81	1084	2	4.39	R	R	3778	2
70	2.90	301.23	1124	2	4.38	R	R	2746	2
80	1.02	321.20	1400	1	4.37	-2.35	596.41	3372	2
90	-9.94	301.63	1541	1	4.36	-13.00	604.00	5144	2
00	-1.20	322.11	3032	1	4.35	R	R	1828	2
10	15.07	403.94	2404	2	4.34	R	R	3989	2
20	R	R	1320	2	4.33	R	R	10054	2
30	-.35	405.00	2464	2	4.32	F	F	15000	2
40	1.97	352.91	1973	2	4.31	R	R	5625	2
50	12.70	448.74	2443	2	4.30	R	R	5983	2
60	-13.32	342.45	1091	2	4.29	R	R	5604	1
70	-11.97	306.40	1607	2	4.28	R	R	6473	1
80	-16.13	308.50	1777	2	4.27	R	R	1743	1
90	-21.14	627.51	4895	2	4.26	R	R	1733	1
00	-6.10	344.23	2272	2	4.25	R	R	1725	1



SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 35.10 S

GEOGRAPHIC LONGITUDE = 25.70 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.24	K	R	1751	1	3.89	R	R	13734	1
4.23	K	K	1652	1	3.88	F	F	15001	1
4.22	K	K	5494	1	3.87	R	R	7229	1
4.21	K	R	3701	1	3.85	R	R	2249	1
4.20	K	R	5373	1	3.85	R	R	5081	1
4.19	F	F	15001	1	3.84	R	R	3548	1
4.18	K	K	5716	1	3.83	R	R	3176	1
4.17	K	R	14894	1	3.82	F	F	15001	1
4.16	2.84	1203.62	13353	1	3.61	R	R	3816	1
4.15	R	K	2460	1	3.60	R	R	5615	1
4.14	K	K	2461	1	3.79	R	R	0052	1
4.13	K	K	2568	1	3.78	R	R	12034	1
4.12	K	K	7123	1	3.77	R	R	8339	1
4.11	R	K	2446	1	3.76	F	F	15001	1
4.10	K	K	2413	1	3.75	R	R	10408	1
4.09	K	K	8288	1	3.70	R	R	2405	1
4.08	K	K	10683	1	3.65	R	R	3513	1
4.07	F	F	15001	1	3.60	R	R	1760	1
4.06	K	K	4921	1	3.55	R	R	11389	1
4.05	K	K	2317	1	3.50	R	R	10822	1
4.04	-7.07	34.32	13598	1	3.45	R	R	11161	1
4.03	K	K	12093	1	3.40	R	R	3845	1
4.02	K	K	14401	1	3.35	F	F	15001	1
4.01	K	R	5685	1	3.30	R	R	4126	1
4.00	K	K	9020	1	3.25	R	R	8236	1
3.99	F	F	15001	1	3.20	R	R	1798	1
3.98	K	K	1652	1	3.15	R	R	1738	1
3.97	K	K	1635	1	3.10	R	R	1712	1
3.96	K	K	1603	1	3.05	R	R	1695	1
3.95	K	R	1591	1	3.00	R	R	1681	1
3.94	K	R	1686	1	2.95	R	R	1672	1
3.93	K	K	1674	1	2.90	R	R	1687	1
3.92	K	K	6433	1	2.85	R	R	1857	1
3.91	K	K	6197	1	2.80	R	R	7432	1
3.90	K	K	8973	1	2.75	R	R	10709	1
					2.16	R	R	732	2

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 34.80 S

GEOGRAPHIC LONGITUDE = 18.20 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
10.00	32.82	46.20	661	2	4.94	R	R	2107	2
9.75	32.88	48.90	666	2	4.93	-19.83	313.72	1884	2
9.50	32.73	101.85	671	2	4.92	R	R	2196	2
9.25	32.32	104.89	677	2	4.91	-4.01	342.80	2443	2
9.00	31.63	108.02	683	2	4.90	.67	370.13	2144	2
8.75	30.63	111.25	689	2	4.89	-.37	411.61	2740	2
8.50	29.29	114.53	696	2	4.88	-2.11	533.92	3877	2
8.25	27.60	117.84	702	2	4.87	R	R	5765	2
8.00	25.55	121.20	710	2	4.86	.97	982.69	8537	2
7.75	23.13	124.56	716	2	4.85	R	R	1174	2
7.50	20.35	128.05	726	2	4.84	R	R	1133	2
7.25	17.22	131.61	735	2	4.83	R	R	1099	2
7.00	13.76	135.42	745	2	4.82	R	R	1082	2
6.75	9.47	139.64	756	2	4.81	R	R	1073	2
6.50	5.80	144.51	766	2	4.80	R	R	1066	2
6.25	1.40	150.47	783	2	4.79	R	R	1063	2
6.00	-3.43	158.25	802	2	4.78	R	R	1061	2
5.90	-5.40	162.10	811	2	4.77	R	R	1061	2
5.80	-7.53	166.74	822	2	4.76	R	R	1064	2
5.75	-8.57	169.34	828	2	4.75	R	R	1069	2
5.70	-9.59	172.20	835	2	4.74	R	R	1075	2
5.60	-11.55	178.01	850	2	4.73	R	R	1083	2
5.50	-13.17	187.42	870	2	4.72	R	R	1093	2
5.40	-13.94	198.60	895	2	4.71	R	R	1107	2
5.30	-12.62	214.48	933	2	4.70	R	R	1127	2
5.25	-10.32	225.29	959	2	4.69	R	R	4261	2
5.20	-6.00	239.67	996	2	4.68	R	R	3443	2
5.15	.70	261.90	1055	2	4.67	R	R	4591	2
5.14	2.25	268.30	1072	2	4.66	9.71	429.72	2794	2
5.13	3.52	276.19	1093	2	4.65	-4.55	515.76	4183	2
5.12	4.14	285.90	1116	2	4.64	R	R	3795	2
5.11	3.32	298.64	1151	2	4.63	R	R	9112	2
5.10	-.92	316.89	1200	2	4.62	R	R	5560	2
5.09	-12.90	350.69	1291	2	4.61	R	R	9175	2
5.08	N	N	1607	2	4.60	R	R	13071	2
5.07	-5.80	563.50	3414	2	4.59	1.09	619.25	4621	2
5.06	N	N	1345	2	4.58	R	R	3234	2
5.05	N	N	1337	2	4.57	R	R	2753	2
5.04	6.94	415.44	2434	2	4.56	R	R	4403	2
5.03	N	R	2367	2	4.55	R	R	5173	2
5.02	-2.31	387.22	2764	2	4.54	R	R	4863	2
5.01	-5.21	508.14	3526	2	4.53	14.93	479.03	3378	2
5.00	-12.64	336.25	1773	2	4.52	10.96	502.98	2735	2
4.99	-14.50	293.77	1659	2	4.51	-9.66	569.72	2910	2
4.98	-9.79	304.05	1682	2	4.50	R	R	3614	2
4.97	N	N	3177	2	4.49	R	R	1926	2
4.96	-14.83	554.30	4050	2	4.48	R	R	1860	2
4.95	18.70	415.93	2524	2	4.47	-4.07	666.66	6762	2

SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 34.80 S

GEOGRAPHIC LONGITUDE = 18.20 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.46	8.54	1259.09	11750	2	4.06	R	R	1557	1
4.45	-14.43	1017.27	9455	2	4.05	R	R	1560	1
4.44	-15.44	608.79	6070	2	4.04	R	R	1613	1
4.43	-9.90	548.74	6680	2	4.03	R	R	11436	1
4.42	K	K	12954	2	4.02	F	F	15001	1
4.41	K	K	4382	2	4.01	R	R	3255	1
4.40	K	K	1590	2	4.00	R	R	9116	1
4.39	K	K	1480	2	3.99	R	R	7903	1
4.38	K	K	1480	2	3.98	R	R	2951	1
4.37	K	K	1463	2	3.93	F	F	15001	1
4.36	K	K	1490	2	3.90	R	R	2796	2
4.35	K	K	1539	2	3.88	R	R	4323	1
4.34	K	K	8530	2	3.83	R	R	2366	1
4.33	K	K	3605	2	3.80	R	R	7554	2
4.32	K	K	3659	2	3.78	R	R	1802	1
4.31	K	K	3927	2	3.73	F	F	15001	1
4.30	K	K	3500	1	3.70	R	R	3933	2
4.29	F	F	15001	1	3.68	R	R	9570	1
4.28	K	K	12070	1	3.63	R	R	5951	1
4.27	K	K	8919	1	3.60	R	R	4471	2
4.26	K	K	4552	1	3.58	R	R	3989	1
4.25	F	F	15001	1	3.53	R	R	6902	1
4.24	K	K	2403	1	3.50	R	R	2645	2
4.23	K	K	2400	1	3.48	R	R	3080	1
4.22	K	K	2534	1	3.43	R	R	6181	1
4.21	-12.15	644.45	5970	1	3.40	R	R	8149	2
4.20	K	K	6710	1	3.38	R	R	1837	1
4.19	-14.68	1002.50	10617	1	3.33	R	R	4117	1
4.18	F	F	15001	1	3.30	R	R	2166	2
4.17	K	K	2286	1	3.28	R	R	6289	1
4.16	K	K	11420	1	3.23	R	R	4946	1
4.15	K	K	9560	1	3.20	R	R	6681	2
4.14	K	K	10017	1	3.18	R	R	8362	1
4.13	K	K	9803	1	3.13	R	R	4573	1
4.12	K	K	11574	1	3.10	R	R	7207	2
4.11	F	F	15001	1	3.08	R	R	8441	1
4.10	K	K	1710	1	3.03	F	F	15001	1
4.09	K	K	1637	1	3.00	R	R	7605	2
4.08	K	K	1580	1	2.98	R	R	4628	1
4.07	K	K	1565	1	2.93	R	R	11326	1
					2.21	R	R	736	2

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 34.70 S

GEOGRAPHIC LONGITUDE = 11.60 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
6.00	5.41	157.34	761	2	4.64	R	R	1100	2
5.95	4.56	158.64	764	2	4.63	R	R	1093	2
5.90	3.60	160.12	767	2	4.62	R	R	1092	2
5.85	2.76	161.63	770	2	4.61	R	R	1093	2
5.80	1.80	163.25	774	2	4.60	R	R	1098	2
5.75	.81	164.97	776	2	4.59	R	R	1105	2
5.70	-.23	166.82	782	2	4.58	R	R	1115	2
5.65	-1.32	168.81	786	2	4.57	R	R	1134	2
5.60	-2.41	170.97	791	2	4.56	9.43	773.64	6496	2
5.55	-3.65	173.32	796	2	4.55	3.18	383.98	2789	2
5.50	-4.90	175.90	803	2	4.54	R	R	8113	2
5.40	-7.58	181.86	816	2	4.53	3.11	386.92	2624	2
5.30	-10.44	189.42	834	2	4.52	16.60	460.97	3555	2
5.25	-11.88	194.03	844	2	4.51	R	R	7683	2
5.20	-13.27	199.43	857	2	4.50	-6.21	705.19	5238	2
5.10	-15.33	213.67	884	2	4.49	R	R	3184	2
5.00	-14.02	236.26	942	2	4.48	.72	512.33	4223	2
4.95	-9.72	254.19	987	2	4.47	-2.45	623.60	3821	2
4.94	-8.31	258.82	996	2	4.46	R	R	6236	2
4.93	-6.60	264.03	1012	2	4.45	-16.42	613.86	5725	2
4.92	-4.76	269.97	1026	2	4.44	R	R	2726	2
4.91	-2.67	276.93	1046	2	4.43	13.08	508.15	3227	2
4.90	-.44	285.34	1069	2	4.42	-9.94	705.16	5132	2
4.89	1.63	296.22	1097	2	4.41	-1.37	343.69	3136	2
4.88	2.64	311.21	1136	2	4.40	-6.08	730.48	5001	2
4.87	-.24	335.06	1194	2	4.39	R	R	8014	2
4.86	-10.70	348.75	1364	2	4.38	R	R	1845	2
4.85	24.78	451.57	2031	2	4.37	R	R	5116	2
4.84	H	H	1332	2	4.36	R	R	2263	2
4.83	H	H	1414	2	4.35	-19.66	990.61	2608	2
4.82	7.33	408.10	2684	2	4.34	R	R	10633	2
4.81	3.18	497.23	3636	2	4.33	R	R	6927	2
4.80	9.78	548.86	3866	2	4.32	R	R	3048	2
4.79	-16.84	314.30	1684	2	4.31	R	R	3907	2
4.78	-9.86	327.10	1680	2	4.30	R	R	1492	2
4.77	H	H	3894	2	4.29	R	R	1489	2
4.76	H	H	2778	2	4.28	R	R	1484	2
4.75	3.43	600.86	5965	2	4.27	R	R	1515	2
4.74	-17.84	329.97	1889	2	4.26	R	R	1608	2
4.73	-4.34	370.70	2802	2	4.25	R	R	3099	2
4.72	2.82	620.85	5223	2	4.24	R	R	7151	2
4.71	-1.76	519.82	3792	2	4.23	R	R	7899	2
4.70	-4.96	378.43	2104	2	4.22	R	R	7535	2
4.69	F	F	15000	2	4.21	R	R	2850	2
4.68	H	H	1214	2	4.20	F	F	15001	1
4.67	H	H	1166	2	4.19	R	R	8630	1
4.66	H	R	1135	2	4.18	R	R	2551	1
4.65	H	H	1112	2	4.17	R	R	2566	1

SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 34.70 S

GEOGRAPHIC LONGITUDE = 30.60 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.10	K	R	8735	1
4.15	K	K	12753	1
4.14	K	K	2499	1
4.15	K	K	2415	1
4.12	K	K	8336	1
4.11	K	K	3106	1
4.10	K	K	6838	1
4.09	-15.00	602.57	6385	1
4.08	K	K	2319	1
4.07	K	K	10211	1
4.06	K	K	4990	1
4.05	K	K	5279	1
4.04	-4.99	1324.60	14400	1
4.03	K	K	5376	1
4.02	K	K	3704	1
4.01	K	R	1695	1
4.00	K	K	1638	1
3.99	K	K	1603	1
3.98	K	K	1589	1
3.97	K	K	1596	1
3.96	K	K	1658	1
3.95	K	R	4569	1
3.94	22.38	1194.32	14581	1
3.93	K	K	3170	1
3.92	K	R	5042	1
3.91	K	K	3426	1
3.90	K	K	8175	1
3.89	K	R	13243	1
3.88	K	K	2389	1
3.87	K	K	5149	1
3.86	K	K	4781	1
3.85	K	K	11269	1
3.84	K	K	6892	1
3.83	K	K	6317	1
3.82	K	K	5070	1
3.81	K	K	9000	1
3.80	K	K	13288	1
3.79	K	K	10417	1
3.78	K	K	8737	1

P	ASYMPTOTIC LAT	LONG	NSTEP	SS
3.77	R	K	14549	1
3.76	F	F	15001	1
3.75	R	R	4367	1
3.74	R	R	9929	1
3.73	R	R	10727	1
3.69	R	R	6869	1
3.68	R	R	4790	1
3.64	R	R	1748	1
3.63	R	R	1718	1
3.59	F	F	15001	1
3.58	F	F	15001	1
3.54	R	R	3911	1
3.53	R	R	12986	1
3.49	R	R	6598	1
3.48	R	R	14893	1
3.44	R	R	6843	1
3.43	R	R	7067	1
3.39	R	R	4178	1
3.38	R	P	3653	1
3.34	R	R	8484	1
3.33	R	R	6579	1
3.29	R	R	7852	1
3.28	R	R	4777	1
3.24	F	F	15001	1
3.23	K	R	5777	1
3.19	R	R	2459	1
3.18	R	R	2501	1
3.14	F	F	15001	1
3.13	R	R	6220	1
3.08	R	R	10644	1
3.03	R	R	4755	1
2.98	R	R	5579	1
2.93	R	R	10654	1
2.88	R	R	1681	1
2.83	R	R	1689	1
2.78	R	R	6237	1
2.73	F	F	15001	1
2.68	F	F	15001	1
2.11	R	R	729	2
2.05	R	R	738	2

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 34.60 S

GEOGRAPHIC LONGITUDE = 23.20 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
8.00	26.20	124.31	705	2	4.86	-16.14	341.01	1942	2
7.75	23.99	127.53	712	2	4.85	-2.46	857.24	5243	2
7.50	21.45	130.81	720	2	4.84	-6.46	351.62	2451	2
7.25	18.60	134.21	729	2	4.83	5.77	381.74	2163	2
7.00	15.46	137.79	737	2	4.82	-.29	359.12	2577	2
6.75	12.02	141.72	747	2	4.81	3.02	381.82	2232	2
6.50	8.26	146.21	756	2	4.80	10.14	820.78	8721	2
6.25	4.18	151.60	770	2	4.79	R	R	1225	2
6.00	-.35	158.47	786	2	4.78	R	R	1169	2
5.90	-2.31	161.85	794	2	4.77	R	R	1134	2
5.80	-4.37	165.75	803	2	4.76	R	R	1105	2
5.75	-5.44	167.93	808	2	4.75	R	R	1089	2
5.70	-6.53	170.32	814	2	4.74	R	R	1080	2
5.60	-8.75	175.79	826	2	4.73	R	R	1075	2
5.50	-10. /	182.56	842	2	4.72	R	R	1073	2
5.40	-13.10	191.21	861	2	4.71	R	R	1074	2
5.30	-14.32	202.84	886	2	4.70	R	R	1076	2
5.25	-14.35	210.36	906	2	4.69	R	R	1082	2
5.20	-13.57	219.61	927	2	4.68	R	R	1089	2
5.15	-11.40	231.37	956	2	4.67	R	R	1098	2
5.14	-10.73	234.15	963	2	4.66	R	R	1111	2
5.13	-9.95	237.11	970	2	4.65	R	R	1133	2
5.12	-9.06	240.29	978	2	4.64	R	R	3588	2
5.11	-8.05	243.75	987	2	4.63	12.3	436.78	3177	2
5.10	-6.90	247.44	996	2	4.62	R	R	3146	2
5.09	-5.61	251.55	1007	2	4.61	5.0	430.01	2745	2
5.08	-4.18	256.06	1019	2	4.60	R	R	4127	2
5.07	-2.60	261.18	1032	2	4.59	R	R	2541	2
5.06	-.93	267.06	1048	2	4.58	R	R	3423	2
5.05	.74	273.97	1066	2	4.57	R	R	3814	2
5.04	2.32	282.36	1086	2	4.56	-.26	494.14	4147	2
5.03	3.26	293.10	1106	2	4.55	R	R	2032	2
5.02	2.54	307.69	1124	2	4.54	R	R	2401	2
5.01	-2.65	320.17	1213	2	4.53	-0.82	568.68	5467	2
5.00	-14.39	365.82	1368	2	4.52	R	R	6732	2
4.99	17.02	410.86	1926	2	4.51	R	R	2725	2
4.98	6.55	367.60	2392	2	4.50	20.53	810.66	5503	2
4.97	R	R	1214	2	4.49	-0.36	553.55	3564	2
4.96	R	R	2657	2	4.48	R	R	3598	2
4.95	15.11	457.17	2613	2	4.47	12.66	494.06	2688	2
4.94	-.28	366.97	2729	2	4.46	R	R	2792	2
4.93	-3.51	659.14	3229	2	4.45	R	R	1884	2
4.92	-16.63	329.89	1696	2	4.44	1.31	979.03	7611	2
4.91	-12.48	301.45	1636	2	4.43	14.61	872.89	6118	2
4.90	-14.01	334.05	1744	2	4.42	R	R	2191	2
4.89	-1.45	366.80	2340	2	4.41	R	R	4455	2
4.88	R	R	2796	2	4.40	R	R	4896	2
4.87	-3.66	379.25	2689	2	4.39	R	R	5204	2

## SCYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 34.60 S

GEOGRAPHIC LONGITUDE = 23.20 E

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
4.36	.46	874.98	8605	2	4.08	R	R	5496	1
4.37	H	H	4313	2	4.07	R	R	1726	1
4.36	H	H	1506	2	4.06	R	R	1647	1
4.35	H	H	1491	2	4.05	R	R	1597	1
4.34	H	R	1494	2	4.04	R	R	1574	1
4.35	H	H	1495	2	4.03	R	R	1565	1
4.32	H	H	1534	2	4.02	R	R	1572	1
4.31	H	H	6485	2	4.01	R	R	1655	1
4.30	.85	1296.77	14248	2	4.00	R	R	7629	1
4.29	H	H	8230	2	3.95	R	R	11896	1
4.26	H	R	3922	2	3.90	R	R	5828	1
4.27	H	H	7894	2	3.85	R	R	5479	1
4.26	H	H	8608	2	3.80	R	R	12907	1
4.25	H	H	8395	2	3.75	R	R	6661	1
4.24	H	H	8205	2	3.70	R	R	6527	1
4.23	H	H	4459	2	3.65	R	R	2264	1
4.22	H	H	8290	2	3.60	R	R	6773	1
4.21	H	R	2092	2	3.55	R	R	3851	1
4.20	H	R	2398	1	3.50	R	R	1814	1
4.19	H	H	2434	1	3.45	F	F	15001	1
4.18	H	R	9580	1	3.40	R	R	2975	1
4.17	F	F	15001	1	3.35	F	F	15001	1
4.16	F	F	15001	1	3.30	F	F	15001	1
4.15	H	R	8962	1	3.25	R	R	12463	1
4.14	H	R	2317	1	3.20	R	R	4993	1
4.13	H	H	11253	1	3.15	F	F	15001	1
4.12	H	H	4913	1	3.10	R	R	3899	1
4.11	H	H	11987	1	3.05	R	R	6930	1
4.10	H	R	14683	1	3.00	R	R	3717	1
4.09	H	R	6729	1	2.95	R	R	9543	1
					2.11	R	R	713	2

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 34.50 S

GEOGRAPHIC LONGITUDE = 18.40 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
8.00	24.64	123.30	714	2	5.05	-10.00	294.40	1659	2
7.75	22.04	126.81	722	2	5.04	-17.53	337.33	1773	2
7.50	19.08	130.35	731	2	5.03	-.43	360.97	2351	2
7.25	15.74	134.04	740	2	5.02	17.92	504.67	3489	2
7.00	12.00	138.01	751	2	5.01	-22.02	644.81	4734	2
6.75	8.00	142.44	763	2	5.00	-23.50	631.48	4743	2
6.60	5.49	145.44	770	2	4.99	-18.56	312.47	1879	2
6.50	3.72	147.64	770	2	4.98	-4.62	519.09	4477	2
6.40	1.90	150.04	782	2	4.97	R	R	2646	2
6.30	.02	152.69	789	2	4.96	-16.94	340.31	2052	2
6.20	-.74	154.03	792	2	4.95	-2.80	350.18	2564	2
6.20	-1.91	155.64	790	2	4.94	16.97	450.84	2447	2
6.10	-3.88	158.97	804	2	4.93	20.59	451.08	4029	2
6.00	-5.84	162.79	814	2	4.92	24.56	485.93	3933	2
5.90	-7.92	167.22	824	2	4.91	R	R	1173	2
5.80	-9.92	172.50	830	2	4.90	R	R	1130	2
5.75	-10.88	175.54	844	2	4.89	R	R	1095	2
5.70	-11.79	178.92	852	2	4.88	R	R	1579	2
5.60	-13.33	186.95	870	2	4.87	R	R	1069	2
5.50	-14.10	197.30	894	2	4.86	R	R	1063	2
5.45	-13.93	203.91	904	2	4.85	R	R	1058	2
5.40	-13.11	211.67	927	2	4.84	R	R	1056	2
5.35	-11.31	221.15	951	2	4.83	R	R	1056	2
5.30	-7.98	233.21	981	2	4.82	R	R	1057	2
5.29	-7.08	236.10	989	2	4.81	R	R	1060	2
5.20	-6.08	239.10	997	2	4.80	R	R	1066	2
5.20	-4.97	242.51	1005	2	4.79	R	R	1073	2
5.20	-3.77	246.14	1015	2	4.78	R	R	1081	2
5.25	-2.47	250.12	1020	2	4.77	R	R	1092	2
5.24	-1.08	254.50	1030	2	4.76	R	R	1105	2
5.25	.30	259.50	1051	2	4.75	R	R	1115	2
5.24	1.81	265.30	1060	2	4.74	R	R	3721	2
5.21	3.14	272.05	1084	2	4.73	R	R	3227	2
5.20	4.12	280.22	1106	2	4.72	R	R	11564	2
5.19	4.20	290.48	1133	2	4.71	1.90	508.86	4046	2
5.18	2.51	304.00	1160	2	4.70	-8.57	597.85	4492	2
5.17	-3.52	324.12	1222	2	4.69	R	R	4875	2
5.10	-16.65	366.93	1330	2	4.68	R	R	4061	2
5.15	R	R	7082	2	4.67	4.00	608.05	4444	2
5.14	-3.81	375.43	2087	2	4.66	R	R	3285	2
5.13	R	R	1345	2	4.65	0.51	536.27	4461	2
5.12	R	R	1343	2	4.64	R	R	2041	2
5.11	4.11	355.09	2290	2	4.63	R	R	2410	2
5.10	1.10	421.10	2750	2	4.62	R	R	6462	2
5.09	0.40	507.59	3450	2	4.61	-1.16	1267.60	13801	2
5.00	18.98	525.17	3159	2	4.60	4.27	864.51	8373	2
5.07	8.93	373.59	1892	2	4.59	R	R	4423	2
5.00	-17.42	298.67	1674	2	4.58	R	R	8469	2



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SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 34.50 S

GEOGRAPHIC LONGITUDE = 18.40 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.51	3.31	520.04	3554	2	4.25	R	R	7972	1
4.50	11.04	501.04	2734	2	4.24	R	R	5298	1
4.50	13.44	492.00	2711	2	4.23	F	F	15001	1
4.54	K	K	5969	2	4.22	R	R	4944	1
4.50	K	K	1680	2	4.21	R	R	2455	1
4.52	K	K	1868	2	4.20	R	R	2392	1
4.51	-24.52	639.07	5848	2	4.19	R	R	5173	1
4.50	K	K	7030	2	4.18	R	R	4048	1
4.49	K	K	4920	2	4.17	R	R	6722	1
4.40	K	K	5461	2	4.16	R	R	3315	1
4.47	K	K	5044	2	4.15	R	R	4132	1
4.40	11.04	501.04	2734	2	4.10	R	R	1555	1
4.40	K	K	11349	2	4.05	F	F	15001	1
4.44	K	K	5940	2	4.00	R	R	2196	1
4.40	K	K	1480	2	3.95	F	F	15001	1
4.42	K	K	1474	2	3.90	R	R	5857	1
4.41	K	K	1470	2	3.85	R	R	4218	1
4.40	K	K	1492	2	3.80	R	R	1701	1
4.39	K	K	1761	1	3.75	R	R	6004	1
4.30	K	K	1836	1	3.70	R	R	6237	1
4.37	K	K	8524	1	3.65	R	R	13203	1
4.30	F	F	15000	1	3.60	R	R	1772	1
4.30	K	K	3461	1	3.55	R	R	4483	1
4.34	K	K	4930	1	3.50	R	R	4993	1
4.31	F	F	15001	1	3.45	R	R	6557	1
4.32	F	F	15001	1	3.40	F	F	15001	1
4.31	K	K	5090	1	3.35	F	F	15001	1
4.30	K	K	3967	1	3.30	R	R	6365	1
4.29	K	K	4087	1	3.25	R	R	8295	1
4.20	K	K	2501	1	3.20	R	R	8445	1
4.27	K	K	2385	1	3.15	R	R	12887	1
4.20	K	K	2444	1	2.26	R	R	754	2

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 33.80 S

GEOGRAPHIC LONGITUDE = 28.30 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
7.75	21.90	135.89	720	2	4.85	R	R	1093	2
7.50	19.17	139.21	720	2	4.84	R	R	1082	2
7.25	16.08	142.60	730	2	4.83	R	R	1076	2
7.00	12.71	146.40	745	2	4.82	R	R	1074	2
6.75	9.05	150.50	755	2	4.81	R	R	1073	2
6.50	5.08	155.44	767	2	4.80	R	R	1076	2
6.25	1.70	161.45	781	2	4.79	R	R	1080	2
6.00	-4.00	169.37	800	2	4.78	R	R	1086	2
5.90	-6.04	173.37	809	2	4.77	R	R	1094	2
5.80	-8.10	178.07	820	2	4.76	R	R	1104	2
5.75	-9.25	180.77	827	2	4.75	R	R	1118	2
5.70	-10.30	183.75	833	2	4.74	R	R	1248	2
5.60	-12.40	190.74	849	2	4.73	4.22	728.34	5761	2
5.50	-14.20	199.72	869	2	4.72	-12.72	517.22	4117	2
5.40	-15.13	211.83	897	2	4.71	R	R	4918	2
5.30	-13.68	229.30	939	2	4.70	R	R	4566	2
5.25	-10.95	241.70	969	2	4.69	R	R	2188	2
5.20	-5.74	259.10	1014	2	4.68	R	R	11822	2
5.15	2.02	289.94	1095	2	4.67	R	R	7575	2
5.14	2.80	300.60	1123	2	4.66	-17.93	654.57	5835	2
5.13	2.12	315.31	1162	2	4.65	-0.04	554.57	3728	2
5.12	-2.84	337.90	1221	2	4.64	R	R	2054	2
5.11	-12.34	394.40	1366	2	4.63	R	R	2409	2
5.10	10.22	476.77	2064	2	4.62	R	R	7988	2
5.09	H	H	9942	2	4.61	R	R	8775	2
5.08	H	H	1310	2	4.60	R	R	4273	2
5.07	H	H	1463	2	4.59	-1.38	593.70	4406	2
5.06	8.47	506.40	4037	2	4.58	R	R	5003	2
5.05	10.25	494.11	2396	2	4.57	R	R	2863	2
5.04	.55	444.75	2858	2	4.56	-4.76	524.72	4012	2
5.03	12.60	367.53	1875	2	4.55	R	R	8805	2
5.02	-16.30	312.50	1081	2	4.54	R	R	9145	2
5.01	-10.05	316.00	1686	2	4.53	R	R	1851	2
5.00	H	H	2393	2	4.52	R	R	8976	2
4.99	H	H	2870	2	4.51	R	R	13003	2
4.98	3.25	496.54	4023	2	4.50	-23.89	1029.25	9957	2
4.97	H	H	2119	2	4.49	R	R	9823	2
4.96	18.87	330.34	1900	2	4.48	R	R	4053	2
4.95	H	H	2241	2	4.47	R	R	5856	2
4.94	-3.10	350.40	2437	2	4.46	R	R	2911	2
4.93	2.00	379.53	2143	2	4.45	R	R	3914	2
4.92	3.40	374.52	2610	2	4.44	R	R	1494	2
4.91	H	H	4741	2	4.43	R	R	1481	2
4.90	H	H	2880	2	4.42	R	R	1484	2
4.89	16.04	472.00	3663	2	4.41	R	R	1502	2
4.88	H	H	1170	2	4.40	R	R	1774	1
4.87	H	H	1142	2	4.39	R	R	1867	1
4.86	H	H	1113	2	4.38	F	F	15001	1

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SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 33.80 S

GEOGRAPHIC LONGITUDE = 28.30 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.37	K	R	6260	1	4.12	R	R	1570	1
4.36	K	K	10728	1	4.11	R	R	1555	1
4.35	K	K	8199	1	4.10	R	R	1552	1
4.34	K	K	7715	1	4.05	R	R	5716	1
4.33	-4.47	678.94	6760	1	4.00	F	F	15001	1
4.32	K	K	4840	1	3.95	R	R	12678	1
4.31	9.14	1117.70	12506	1	3.90	R	R	4073	1
4.30	K	K	4565	1	3.85	R	R	8129	1
4.29	K	K	2565	1	3.80	R	R	1698	1
4.28	K	K	2404	1	3.75	R	R	8129	1
4.27	K	K	2438	1	3.70	R	R	8394	1
4.26	K	K	7848	1	3.65	R	R	8079	1
4.25	K	K	13744	1	3.60	R	R	2697	1
4.24	K	K	13177	1	3.55	R	R	1777	1
4.23	K	K	4364	1	3.50	F	F	15001	1
4.22	K	K	2337	1	3.45	R	R	4686	1
4.21	K	K	3927	1	3.40	R	R	6550	1
4.20	K	K	5781	1	3.35	R	R	7274	1
4.19	K	K	8370	1	3.30	R	R	5300	1
4.18	K	K	3825	1	3.25	R	R	2692	1
4.17	K	K	6923	1	3.20	R	R	4924	1
4.16	K	K	10191	1	3.15	R	R	5837	1
4.15	K	K	7758	1	3.10	R	R	2623	1
4.14	K	K	1664	1	3.05	R	R	14800	1
4.13	K	K	1603	1	2.31	R	R	759	2

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 33.30 S

GEOGRAPHIC LONGITUDE = 35.70 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
6.25	-0.01	169.51	782	2	4.92	R	R	1134	2
6.20	-0.95	170.97	785	2	4.91	R	R	1111	2
6.15	-1.80	172.52	789	2	4.90	R	R	1056	2
6.10	-2.82	174.17	792	2	4.89	R	R	1088	2
6.05	-3.81	175.95	797	2	4.88	R	R	1085	2
6.00	-4.82	177.85	801	2	4.87	R	R	1085	2
5.95	-6.95	182.12	811	2	4.86	R	R	1087	2
5.85	-8.02	184.55	817	2	4.85	R	R	1274	1
5.80	-9.15	187.21	825	2	4.84	R	R	1834	1
5.75	-10.25	190.15	829	2	4.83	R	R	1107	2
5.70	-11.41	193.39	837	2	4.82	R	R	1119	2
5.65	-12.52	197.04	845	2	4.81	R	R	1139	2
5.60	-13.61	201.16	854	2	4.80	R	R	2876	2
5.55	-14.61	205.95	865	2	4.79	R	R	3565	2
5.50	-15.44	211.44	878	2	4.78	R	R	2653	2
5.45	-15.98	217.94	895	2	4.77	5.43	419.00	2722	2
5.40	-16.02	225.70	912	2	4.76	R	R	3403	2
5.35	-15.19	235.42	934	2	4.75	R	R	2517	2
5.30	-12.87	247.79	964	2	4.74	R	R	3261	2
5.25	-7.95	264.90	1006	2	4.73	R	R	3811	2
5.20	.40	294.69	1087	2	4.72	3.62	500.42	4131	2
5.15	1.94	304.79	1115	2	4.71	R	R	2075	2
5.10	2.44	318.41	1149	2	4.70	-0.41	754.70	6956	2
5.11	.01	338.91	1202	2	4.69	.88	1270.43	14424	2
5.10	-4.12	381.64	1314	2	4.68	R	R	3881	2
5.15	9.80	454.20	2300	2	4.67	R	R	4485	2
5.14	3.80	759.89	5214	2	4.66	-6.43	713.15	6177	2
5.15	H	H	1321	2	4.65	R	R	2468	2
5.12	16.12	401.02	2860	2	4.64	.54	536.39	3557	2
5.11	.92	420.10	2855	2	4.63	R	R	2499	2
5.10	17.01	447.69	3006	2	4.62	-12.87	711.68	4299	2
5.09	-15.16	628.19	3916	2	4.61	R	R	6948	2
5.08	-0.34	371.45	1405	2	4.60	R	R	1854	2
5.07	-14.24	321.85	1687	2	4.59	R	R	7139	2
5.06	-10.10	357.22	1726	2	4.58	R	R	8377	2
5.05	7.71	453.34	2810	2	4.57	R	R	8586	2
5.04	15.71	402.31	2616	2	4.56	R	R	5418	2
5.05	1.45	361.48	2325	2	4.55	R	R	3475	2
5.04	H	H	3641	2	4.54	R	R	5364	2
5.01	16.80	345.44	1916	2	4.53	R	R	10938	2
5.00	-0.82	360.90	2625	2	4.52	R	R	4926	2
4.99	-1.98	412.47	3010	2	4.51	R	R	1495	2
4.98	-1.65	392.55	2450	2	4.50	R	R	1732	1
4.97	23.50	451.62	3829	2	4.49	R	R	1733	1
4.96	H	H	2432	2	4.48	R	R	1752	1
4.95	H	H	5398	2	4.47	R	R	1775	1
4.94	H	H	1205	2	4.46	R	R	1874	1
4.95	H	H	1164	2	4.45	R	R	11920	1

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SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 33.30 S

GEOGRAPHIC LONGITUDE = 35.70 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.44	R	R	8379	1	4.04	R	R	10940	1
4.43	K	R	3258	1	4.00	R	R	6319	1
4.42	F	F	15001	1	3.99	R	R	10558	1
4.41	K	R	5240	1	3.95	R	R	6998	1
4.40	K	R	4204	1	3.94	F	F	15001	1
4.39	K	R	10849	1	3.90	R	R	5330	1
4.38	K	R	4674	1	3.89	R	R	3339	1
4.37	K	R	4855	1	3.85	R	R	1669	1
4.36	F	F	15001	1	3.84	R	R	1692	1
4.35	K	R	2409	1	3.80	R	R	2503	1
4.34	K	R	2425	1	3.79	R	R	6625	1
4.33	K	R	5574	1	3.75	R	R	6846	1
4.32	K	R	8808	1	3.74	R	R	3563	1
4.31	K	R	7688	1	3.70	R	R	3688	1
4.30	-6.43	1028.50	13308	1	3.69	R	R	9503	1
4.29	K	R	2319	1	3.65	R	R	10965	1
4.28	K	R	4990	1	3.64	R	R	4363	1
4.27	K	R	4085	1	3.60	R	R	1766	1
4.26	R	R	13060	1	3.59	R	R	1737	1
4.25	K	R	3074	1	3.55	R	R	12223	1
4.24	K	R	9610	1	3.54	F	F	15001	1
4.23	K	R	9790	1	3.50	R	R	2412	1
4.22	K	R	7191	1	3.49	F	F	15001	1
4.21	K	R	1661	1	3.45	R	R	5875	1
4.20	K	R	1600	1	3.44	R	R	3703	1
4.19	K	R	1568	1	3.40	R	R	11623	1
4.18	K	R	1553	1	3.39	F	F	15001	1
4.17	K	R	1549	1	3.35	R	R	5369	1
4.16	K	R	1557	1	3.34	R	R	5248	1
4.15	K	R	1647	1	3.30	R	R	3080	1
4.14	K	R	7246	1	3.29	R	R	12033	1
4.13	K	R	3073	1	3.24	R	R	7012	1
4.12	K	R	3616	1	3.19	R	R	7013	1
4.11	F	F	15001	1	3.14	F	F	15001	1
4.10	F	F	15001	1	3.09	R	R	8066	1
4.09	K	R	2780	1	3.04	F	F	15001	1
4.08	K	R	10033	1	2.41	R	R	827	2
					2.23	R	R	708	2

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 32.40 S

GEOGRAPHIC LONGITUDE = 33.20 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
8.00	18.80	146.47	731	2	5.17	R	R	1145	2
7.75	15.59	150.01	741	2	5.16	R	R	1102	2
7.50	11.90	153.74	751	2	5.15	R	R	1082	2
7.25	8.01	157.85	762	2	5.14	R	R	1071	2
7.00	3.77	162.49	775	2	5.13	R	R	1063	2
6.75	-.74	166.00	790	2	5.12	R	R	1059	2
6.50	-5.40	175.10	809	2	5.11	R	R	1055	2
6.25	-10.32	184.85	832	2	5.10	R	R	1054	2
6.00	-14.71	199.40	860	2	5.09	R	R	1054	2
5.90	-15.88	207.72	886	2	5.08	R	R	1056	2
5.80	-16.15	218.45	910	2	5.07	R	R	1060	2
5.75	-15.60	225.08	926	2	5.06	R	R	1066	2
5.70	-14.50	232.95	945	2	5.05	R	R	1074	2
5.60	-8.70	254.60	1000	2	5.04	R	R	1082	2
5.55	-3.07	271.70	1040	2	5.03	R	R	1092	2
5.50	3.00	302.80	1131	2	5.02	R	R	1103	2
5.49	2.80	313.60	1159	2	5.01	R	R	1116	2
5.40	.82	328.35	1198	2	5.00	R	R	1138	2
5.47	-5.25	351.14	1259	2	4.99	12.29	439.32	2989	2
5.40	-9.30	408.84	1410	2	4.98	R	R	2471	2
5.45	3.59	529.45	2680	2	4.97	R	R	6752	2
5.44	2.82	396.04	2138	2	4.96	11.05	460.14	2869	2
5.45	H	H	1373	2	4.95	-7.16	521.23	4574	2
5.42	H	H	1350	2	4.94	-7.90	680.78	5866	2
5.41	H	H	1525	2	4.93	R	R	2567	2
5.40	9.10	420.10	2400	2	4.92	-17.86	665.70	4357	2
5.39	-7.74	346.80	2041	2	4.91	R	R	2556	2
5.30	-1.34	408.50	2539	2	4.90	R	R	3992	2
5.37	19.80	443.51	3281	2	4.89	R	R	5503	2
5.30	8.90	342.00	1890	2	4.88	-1.49	762.85	7427	2
5.35	-17.32	320.10	1696	2	4.87	R	R	7474	2
5.34	-11.49	312.10	1675	2	4.86	R	R	6593	2
5.35	-11.75	357.20	1740	2	4.85	5.00	765.40	6699	2
5.32	H	R	2211	2	4.84	R	R	4671	2
5.31	-2.84	541.65	4118	2	4.83	R	R	2747	2
5.30	.84	393.74	2934	2	4.82	R	R	3177	2
5.29	-3.94	541.55	4550	2	4.81	R	R	8620	2
5.20	9.55	461.44	3491	2	4.80	-5.42	718.35	6137	2
5.27	-17.95	351.25	1897	2	4.79	R	R	7137	2
5.20	H	R	4092	2	4.78	R	R	2740	2
5.25	11.12	397.75	2560	2	4.77	R	R	5740	2
5.24	H	H	2190	2	4.76	R	R	1832	2
5.25	-5.60	303.49	2139	2	4.75	R	R	4880	2
5.22	-3.17	355.70	2546	2	4.74	R	R	2605	2
5.21	16.42	805.62	6977	2	4.73	R	R	5512	2
5.20	2.97	377.14	2772	2	4.72	R	R	5162	2
5.19	H	H	6020	2	4.71	R	R	5734	2
5.10	H	H	1182	2	4.70	R	R	8892	1

SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 32.40 S

GEOGRAPHIC LONGITUDE = 33.20 E

P	ASYMPTOTIC LAT	LONG	1STEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.69	K	K	5910	1	4.34	R	R	6561	1
4.60	K	K	3159	1	4.33	K	R	1643	1
4.67	K	K	5010	1	4.32	R	R	1580	1
4.60	K	K	1074	1	4.31	R	R	1544	1
4.65	K	K	1717	1	4.30	R	R	1526	1
4.64	K	K	1697	1	4.29	R	R	1519	1
4.63	K	K	1693	1	4.28	R	R	1519	1
4.62	K	K	1702	1	4.27	R	R	1527	1
4.61	K	K	1727	1	4.26	R	R	1617	1
4.60	K	K	1792	1	4.25	R	R	5967	1
4.59	K	K	1050	1	4.24	R	R	2998	1
4.50	K	K	4899	1	4.23	R	R	0056	1
4.57	K	K	5320	1	4.22	R	R	2401	1
4.50	K	K	13490	1	4.21	R	R	5229	1
4.50	K	K	7900	1	4.20	R	R	14661	1
4.54	K	K	11060	1	4.15	R	R	5271	1
4.50	K	K	4480	1	4.10	R	R	5675	1
4.52	K	K	13757	1	4.05	R	R	3234	1
4.51	K	K	3040	1	4.00	R	R	10497	1
4.50	K	K	4150	1	3.95	R	R	3467	1
4.49	K	K	5157	1	3.90	R	R	2247	1
4.40	K	K	2343	1	3.85	F	F	15001	1
4.47	K	K	2450	1	3.80	R	R	11395	1
4.40	K	K	9313	1	3.75	R	R	8568	1
4.40	K	K	2489	1	3.70	R	R	10022	1
4.44	K	K	3708	1	3.65	R	R	2558	1
4.40	K	K	5014	1	3.60	R	R	1806	1
4.42	K	K	2351	1	3.55	R	R	13395	1
4.41	K	K	2280	1	3.50	R	R	5278	1
4.40	K	K	6530	1	3.45	R	R	7320	1
4.39	K	K	5465	1	3.40	R	R	1865	1
4.30	K	K	5200	1	3.35	R	R	1829	1
4.37	K	K	11160	1	3.30	R	R	1818	1
4.30	K	K	4437	1	3.25	R	R	1791	1
4.30	K	K	5317	1	3.20	R	R	1794	1

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 30.70 S

GEOGRAPHIC LONGITUDE = 38.10 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
7.00	-11.90	190.17	644	2	5.76	R	R	2176	2
6.75	-16.34	202.61	670	2	5.75	-16.75	351.57	2079	2
6.50	-18.01	221.85	924	2	5.74	R	R	2295	2
6.25	-9.80	256.37	1016	2	5.73	14.47	526.65	3095	2
6.20	-5.45	267.97	1051	2	5.72	R	R	3568	2
6.19	-4.40	270.74	1059	2	5.71	9.99	459.64	3482	2
6.10	-3.31	273.71	1060	2	5.70	R	R	1237	2
6.17	-2.17	276.95	1076	2	5.69	R	R	1140	2
6.10	-1.00	280.44	1080	2	5.68	R	R	1067	2
6.15	.17	284.31	1100	2	5.67	R	R	1086	2
6.14	1.35	288.62	1115	2	5.66	R	R	1076	2
6.15	2.41	293.48	1127	2	5.65	R	R	1069	2
6.12	3.35	299.05	1144	2	5.64	R	R	1063	2
6.11	3.90	305.55	1164	2	5.63	R	R	1058	2
6.10	4.05	313.31	1180	2	5.62	R	R	1054	2
6.09	3.20	322.80	1214	2	5.61	R	R	1049	2
6.00	.75	335.20	1251	2	5.60	R	R	1221	1
6.07	-4.48	352.72	1303	2	5.59	R	R	1218	1
6.00	-12.00	364.70	1394	2	5.58	R	R	1216	1
6.05	10.65	457.15	2364	2	5.57	R	R	1214	1
6.04	20.57	454.02	2205	2	5.56	R	R	1213	1
6.05	15.81	398.90	2289	2	5.55	R	R	1213	1
6.02	H	H	1495	2	5.54	R	R	1214	1
6.01	H	H	1409	2	5.53	R	R	1216	1
6.00	H	H	1382	2	5.52	R	R	1220	1
5.99	H	H	1411	2	5.51	R	R	1226	1
5.90	7.90	400.74	3895	2	5.50	R	R	1237	1
5.97	-.24	421.80	2771	2	5.49	R	R	1242	1
5.90	-8.44	341.52	2039	2	5.48	R	R	1249	1
5.95	-2.95	648.75	6121	2	5.47	R	R	1260	1
5.94	-2.94	541.15	3485	2	5.46	R	R	1273	1
5.95	11.69	426.64	2614	2	5.45	R	R	1287	1
5.92	-.10	309.05	1064	2	5.44	R	R	1300	1
5.91	-18.87	324.20	1725	2	5.43	R	R	1313	1
5.90	-14.77	309.35	1682	2	5.42	R	R	1328	1
5.89	-10.07	310.75	1684	2	5.41	R	R	1345	1
5.80	-4.72	328.22	1732	2	5.40	R	R	1374	1
5.87	-10.24	346.00	1936	2	5.39	R	R	10122	1
5.80	H	H	3457	2	5.38	R	R	5358	1
5.35	H	H	2828	2	5.37	R	R	3178	1
5.84	1.35	423.62	3045	2	5.36	R	R	5393	1
5.85	3.08	300.85	2384	2	5.35	R	R	4101	1
5.82	H	R	2147	2	5.34	R	R	10866	1
5.81	15.50	349.30	2180	2	5.33	16.18	776.14	7670	1
5.80	-18.30	326.37	1905	2	5.32	R	R	3198	1
5.79	-15.30	372.30	2024	2	5.31	R	R	4835	1
5.70	3.74	459.80	2745	2	5.30	R	R	4373	1
5.77	-6.54	349.84	2446	2	5.29	10.97	565.47	5929	1



SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 30.70 S

GEOGRAPHIC LONGITUDE = 38.10 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
5.20	K	K	3621	1	4.91	R	R	1673	1
5.27	K	K	2502	1	4.90	R	R	1728	1
5.20	-12.12	678.00	6961	1	4.89	R	R	1804	1
5.25	K	K	9214	1	4.88	R	R	4223	1
5.24	K	K	2620	1	4.85	R	R	10925	1
5.25	K	K	3597	1	4.83	R	R	2673	1
5.22	K	K	7330	1	4.80	R	R	7882	1
5.21	K	K	4695	1	4.78	R	R	8593	1
5.20	K	K	13117	1	4.75	R	R	4008	1
5.19	K	R	7025	1	4.73	R	R	11033	1
5.10	K	K	3544	1	4.70	R	R	2232	1
5.17	K	R	6640	1	4.68	R	R	5964	1
5.10	K	K	11492	1	4.65	R	R	2631	1
5.15	K	K	5891	1	4.63	R	R	3161	1
5.14	K	K	3615	1	4.60	R	R	1667	1
5.15	K	K	7730	1	4.58	R	R	1534	1
5.12	K	K	4168	1	4.55	R	R	1476	1
5.11	K	K	2259	1	4.53	R	R	1478	1
5.10	K	K	2152	1	4.50	R	R	1665	1
5.09	-1.34	751.21	7671	1	4.48	R	R	2522	1
5.00	K	K	2814	1	4.45	R	R	9838	1
5.07	K	K	8582	1	4.43	R	R	4338	1
5.00	K	K	2541	1	4.40	R	P	8364	1
5.05	K	K	8452	1	4.38	R	.	3909	1
5.04	K	K	6331	1	4.35	R	R	9681	1
5.05	K	K	2330	1	4.33	R	R	5482	1
5.02	K	K	5489	1	4.28	R	R	4012	1
5.01	K	K	10495	1	4.23	R	R	5097	1
5.00	K	K	3083	1	4.18	R	R	1579	1
4.99	K	K	5247	1	4.13	R	R	10416	1
4.90	K	K	3737	1	4.08	R	R	4385	1
4.97	K	K	1697	1	4.03	R	R	13241	1
4.90	K	K	1667	1	3.98	R	R	5524	1
4.95	K	K	1680	1	3.93	R	R	3165	1
4.94	K	K	1641	1	3.88	R	R	1706	1
4.95	K	K	1642	1	3.83	F	F	15001	1
4.92	K	K	1651	1	3.81	R	R	661	3
					3.32	R	R	685	3

## SOYA VOLTAGE

GEOGRAPHIC LATITUDE = 50.10 S

GEOGRAPHIC LONGITUDE = 43.30 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
9.10	21.44	155.75	727	2	5.97	.97	406.30	2145	2
8.00	3.27	174.12	784	2	5.96	5.15	337.60	2550	2
7.75	-1.64	179.30	800	2	5.95	-5.15	353.80	2455	2
7.50	-6.68	185.60	820	2	5.94	R	R	2170	2
7.25	-12.04	193.94	844	2	5.93	-13.98	360.66	2124	2
7.00	-16.60	205.60	874	2	5.92	R	R	2468	2
6.75	-18.94	223.14	918	2	5.91	1.99	365.48	2633	2
6.50	-13.72	252.77	997	2	5.90	R	R	2523	2
6.45	-10.54	261.72	1025	2	5.89	9.88	474.77	3263	2
6.40	-6.10	272.90	1057	2	5.88	R	R	1251	2
6.35	-5.50	268.35	1105	2	5.87	R	R	1116	2
6.34	.62	242.37	1118	2	5.86	R	R	1101	2
6.33	1.70	246.80	1132	2	5.85	R	R	1091	2
6.32	2.80	301.94	1147	2	5.84	R	R	1084	2
6.31	3.64	307.82	1160	2	5.83	R	R	1077	2
6.30	4.12	314.70	1187	2	5.82	R	R	1072	2
6.25	3.95	323.07	1212	2	5.81	R	R	1067	2
6.20	2.64	333.44	1244	2	5.80	R	R	1063	2
6.21	-4.40	347.32	1280	2	5.79	R	R	1060	2
6.20	-6.40	368.25	1351	2	5.78	R	R	1057	2
6.25	-8.72	414.18	1489	2	5.77	R	R	1056	2
6.24	R	R	1769	2	5.76	R	R	1056	2
6.25	-1.50	345.94	2071	2	5.75	R	R	1060	2
6.22	10.55	505.52	3346	2	5.74	R	R	1237	1
6.21	R	R	1468	2	5.73	R	R	1232	1
6.20	R	R	1396	2	5.72	R	R	1230	1
6.19	R	R	1377	2	5.71	R	R	1227	1
6.10	R	R	1394	2	5.70	R	R	1224	1
6.17	R	R	2825	2	5.69	R	R	1222	1
6.10	.84	419.30	2759	2	5.68	R	R	1221	1
6.15	-7.70	347.04	2044	2	5.67	R	R	1221	1
6.14	20.92	508.90	4447	2	5.66	R	R	1223	1
6.13	-1.25	349.10	2062	2	5.65	R	R	1227	1
6.12	R	R	9880	2	5.64	R	R	1233	1
6.11	16.11	344.81	1472	2	5.63	R	R	1246	1
6.10	-17.70	336.90	1756	2	5.62	R	R	1263	1
6.09	-16.10	317.32	1781	2	5.61	R	R	1280	1
6.08	-11.31	314.25	1691	2	5.60	R	R	1294	1
6.07	-8.64	324.74	1710	2	5.59	R	R	1308	1
6.06	-13.30	358.84	1820	2	5.58	R	R	1324	1
6.05	R	R	2090	2	5.57	R	R	1341	1
6.04	-22.80	649.65	5334	2	5.56	R	R	1366	1
6.03	14.44	416.45	2603	2	5.55	R	R	3950	1
6.02	R	R	3150	2	5.54	R	R	4635	1
6.01	R	R	2566	2	5.53	R	R	5933	1
6.00	R	R	2137	2	5.52	7.79	470.83	5109	1
5.99	-8.94	305.92	2020	2	5.51	2.91	486.75	5685	1
5.90	-17.25	352.20	1915	2	5.50	R	R	7673	1

SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 30.10 S

GEOGRAPHIC LONGITUDE = 43.30 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
5.45	K	F	4627	1	5.10	R	R	1654	1
5.46	K	R	3208	1	5.09	R	R	1777	1
5.47	K	K	5725	1	5.08	R	R	1624	1
5.48	K	K	9652	1	5.07	R	R	1624	1
5.49	K	K	3639	1	5.06	R	R	1633	1
5.49	K	K	4979	1	5.05	R	R	1651	1
5.49	K	F	7232	1	5.04	R	R	1687	1
5.49	K	K	10281	1	5.03	R	R	1779	1
5.49	K	K	2822	1	5.02	R	R	1871	1
5.49	-8.34	631.49	5657	1	5.01	R	R	4477	1
5.39	-6.60	643.35	6561	1	5.00	R	R	5262	1
5.38	K	K	11105	1	4.99	R	R	4409	1
5.37	K	R	5709	1	4.98	R	R	4733	1
5.36	K	K	8568	1	4.97	R	R	2472	1
5.35	K	K	4094	1	4.96	R	R	4735	1
5.34	-7.71	537.87	5426	1	4.95	R	R	4245	1
5.33	K	K	8021	1	4.94	R	R	9433	1
5.32	K	R	7686	1	4.93	R	R	8560	1
5.31	K	K	2847	1	4.88	R	R	6402	1
5.30	K	K	3694	1	4.83	R	R	2192	1
5.29	F	F	15001	1	4.78	R	R	2368	1
5.28	K	K	5589	1	4.73	R	R	1455	1
5.27	K	K	5570	1	4.68	R	R	1455	1
5.26	K	K	4085	1	4.63	R	R	1516	1
5.25	K	K	2162	1	4.58	R	R	10479	1
5.24	K	K	10911	1	4.53	F	F	15001	1
5.23	2.84	1152.85	13075	1	4.48	R	R	4654	1
5.21	K	K	9626	1	4.38	R	R	3722	1
5.19	K	R	3970	1	4.28	R	R	6675	1
5.18	K	K	2384	1	4.23	R	R	3842	1
5.17	K	K	4086	1	4.18	R	R	5320	1
5.16	K	K	3455	1	4.13	R	R	1641	1
5.15	K	K	4384	1	4.08	R	R	12554	1
5.14	7.77	1315.07	13786	1	4.03	R	R	5545	1
5.13	K	K	4090	1	3.98	R	R	4975	1
5.12	K	K	1727	1	3.93	R	R	9575	1
5.11	K	K	1682	1	3.88	R	R	2853	1
					3.10	R	R	6545	3

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 29.10 S

GEOGRAPHIC LONGITUDE 42.30 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
10.00	25.64	150.84	840	1	0.56	-0.58	306.10	1715	2
9.75	23.35	154.51	851	1	0.55	-7.31	318.45	1752	2
9.50	20.44	158.20	865	1	0.54	-13.32	346.99	1845	2
9.25	17.14	162.00	870	1	0.53	1.86	454.94	2889	2
9.00	13.20	166.00	891	1	0.52	11.04	387.52	2514	2
8.75	8.84	170.27	908	1	0.51	13.75	435.84	3160	2
8.50	3.80	174.91	927	1	0.50	3.24	591.54	4429	2
8.25	-1.54	180.27	949	1	0.49	-0.08	349.28	2378	2
8.00	-7.32	186.80	975	1	0.48	10.87	528.18	4325	2
7.75	-13.12	195.57	1008	1	0.47	4.58	426.58	2917	2
7.50	-18.10	207.95	1050	1	0.46	-20.45	338.00	2014	2
7.40	-19.45	214.40	909	2	0.45	-10.69	316.96	1946	2
7.30	-20.07	222.25	931	2	0.44	-18.40	343.73	2021	2
7.25	-19.90	226.72	1110	1	0.43	R	R	2285	2
7.20	-19.54	231.64	957	2	0.42	-5.78	350.04	2521	2
7.10	-17.21	243.25	990	2	0.41	.70	404.26	3257	2
7.00	-12.00	257.72	1210	1	0.40	R	R	4017	2
6.95	-8.01	267.01	1060	2	0.39	-20.65	335.36	2128	2
6.90	-2.80	278.81	1100	2	0.38	28.85	455.71	2594	2
6.85	3.03	295.87	1165	2	0.37	R	R	8018	2
6.84	4.04	300.40	1180	2	0.36	R	R	2406	2
6.83	4.65	305.60	1190	2	0.35	R	R	1169	2
6.82	5.34	311.69	1210	2	0.34	R	R	1148	2
6.81	5.30	318.70	1242	2	0.33	R	R	1137	2
6.80	4.40	327.25	1271	2	0.32	R	R	1129	2
6.79	2.12	337.81	1304	2	0.31	R	R	1120	2
6.78	-2.32	351.82	1362	2	0.30	R	R	1111	2
6.77	-9.48	373.45	1454	2	0.29	R	R	1103	2
6.76	-0.97	422.27	1652	2	0.28	R	R	1095	2
6.75	R	R	1784	2	0.27	R	R	1087	2
6.74	3.38	304.32	2085	2	0.26	R	R	1080	2
6.73	10.70	347.60	2324	2	0.25	R	R	1259	1
6.72	R	R	1534	2	0.24	R	R	1252	1
6.71	R	R	1423	2	0.23	R	R	1244	1
6.70	R	R	1387	2	0.22	R	R	1238	1
6.69	R	R	1374	2	0.21	R	R	1231	1
6.68	R	R	1390	2	0.20	R	R	1225	1
6.67	23.25	406.00	2508	2	0.19	R	R	1220	1
6.66	-10.83	403.40	3891	2	0.18	R	R	1214	1
6.65	-13.62	345.60	2073	2	0.17	R	R	1210	1
6.64	-1.64	458.55	2409	2	0.16	R	R	1204	1
6.63	-1.85	307.14	2461	2	0.15	R	R	1201	1
6.62	4.17	422.81	2810	2	0.14	R	R	1196	1
6.61	18.95	401.54	3047	2	0.13	R	R	1193	1
6.60	-7.02	301.67	1890	2	0.12	R	R	1190	1
6.59	-20.80	324.95	1767	2	0.11	R	R	1167	1
6.58	-17.40	308.00	1720	2	0.10	R	R	1184	1
6.57	-12.50	302.82	1705	2	0.09	R	R	1162	1

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SOYA VOYAGE (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 29.10 S

GEOGRAPHIC LONGITUDE = 42.30 E

P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG		
4.40	K	K	6474	1
4.41	K	K	1508	1
4.30	K	K	6147	1

P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG		
4.31	F	F	15001	1
4.26	K	R	10034	1
4.16	R	R	10523	3

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 28.10 S

GEOGRAPHIC LONGITUDE = 47.00 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
10.00	20.94	75	732	2	7.36	-4.91	280.05	1303	1
9.75	17.74	107.52	743	2	7.35	-3.75	282.54	1314	1
9.50	14.05	170.44	755	2	7.34	-2.54	285.21	1325	1
9.25	9.74	174.59	770	2	7.33	-1.30	288.08	1337	1
9.00	4.80	179.09	786	2	7.32	-.04	291.18	1350	1
8.75	-.50	184.25	805	2	7.31	1.21	294.57	1364	1
8.50	-6.48	190.40	828	2	7.30	2.45	298.31	1380	1
8.25	-12.50	198.50	855	2	7.29	3.63	302.47	1397	1
8.00	-18.17	209.97	890	2	7.28	4.67	307.15	1416	1
7.75	-21.24	227.21	1105	1	7.27	5.50	312.49	1438	1
7.74	-21.31	228.00	1108	1	7.26	5.97	318.67	1463	1
7.73	-21.31	228.90	1111	1	7.25	5.84	325.96	1494	1
7.72	-21.30	229.80	1114	1	7.24	4.77	334.75	1531	1
7.71	-21.28	230.77	1117	1	7.23	2.20	345.76	1579	1
7.70	-21.24	231.70	1121	1	7.22	-2.65	360.57	1647	1
7.69	-21.14	232.65	1124	1	7.21	-9.88	384.18	1753	1
7.68	-21.13	233.62	1127	1	7.20	2.62	442.56	2024	1
7.67	-21.04	234.60	1130	1	7.19	R	R	2078	1
7.66	-20.94	235.60	1133	1	7.18	-7.81	383.68	2423	1
7.65	-20.83	236.60	1137	1	7.17	7.32	388.34	2661	1
7.64	-20.69	237.60	1141	1	7.16	R	R	1799	1
7.63	-20.54	238.74	1144	1	7.15	R	R	1650	1
7.62	-20.38	239.82	1148	1	7.14	R	R	1617	1
7.61	-20.17	240.93	1152	1	7.13	R	R	1613	1
7.60	-19.95	242.00	1156	1	7.12	R	R	1628	1
7.59	-19.71	243.21	1160	1	7.11	10.23	464.44	3353	1
7.58	-19.44	244.39	1164	1	7.10	-8.53	499.50	4563	1
7.57	-19.15	245.59	1168	1	7.09	-11.67	358.60	2493	1
7.56	-18.83	246.81	1172	1	7.08	9.58	370.80	2568	1
7.55	-18.49	248.00	1177	1	7.07	10.82	590.91	4765	1
7.54	-18.12	249.34	1181	1	7.06	-2.13	405.41	3292	1
7.53	-17.71	250.65	1186	1	7.05	5.68	413.77	3110	1
7.52	-17.26	251.99	1191	1	7.04	9.73	385.18	2404	1
7.51	-16.81	253.30	1196	1	7.03	-20.23	338.20	2176	1
7.50	-16.31	254.77	1201	1	7.02	-19.54	315.93	2096	1
7.49	-15.78	256.21	1207	1	7.01	-14.90	306.23	2059	1
7.48	-15.20	257.69	1213	1	7.00	-10.44	304.79	2049	1
7.47	-14.59	259.21	1218	1	6.99	-7.12	310.47	2064	1
7.46	-13.94	260.76	1224	1	6.98	-6.73	324.66	2112	1
7.45	-13.25	262.39	1230	1	6.97	-13.89	355.58	2232	1
7.44	-12.51	264.05	1237	1	6.96	-28.32	627.78	5029	1
7.43	-11.73	265.77	1244	1	6.95	13.94	354.89	2982	1
7.42	-10.90	267.50	1252	1	6.94	R	R	6511	1
7.41	-10.03	269.42	1259	1	6.93	13.70	521.51	4232	1
7.40	-9.10	271.35	1267	1	6.92	2.45	355.25	2805	1
7.39	-8.13	273.30	1276	1	6.91	9.30	419.70	3026	1
7.38	-7.11	275.47	1284	1	6.90	-3.39	537.06	3826	1
7.37	-6.03	277.70	1293	1	6.89	-19.40	347.10	2376	1

SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 28.10 S

GEOGRAPHIC LONGITUDE = 47.00 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
6.86	-17.40	317.64	2164	1	6.40	R	R	1147	1
6.87	-14.84	327.30	2291	1	6.39	R	R	1147	1
6.88	9.70	418.27	2691	1	6.38	R	R	1148	1
6.89	-2.00	517.69	5112	1	6.37	R	R	1148	1
6.84	8.30	303.30	3074	1	6.36	R	R	1149	1
6.85	K	K	2747	1	6.35	R	R	1151	1
6.82	-7.84	370.70	2662	1	6.34	R	R	1154	1
6.81	-19.20	301.70	2512	1	6.33	R	R	1157	1
6.80	K	K	3100	1	6.32	R	R	1164	1
6.79	-4.01	577.82	6611	1	6.31	R	R	1176	1
6.78	K	K	1390	1	6.30	R	R	1212	1
6.77	K	K	1374	1	6.29	R	R	1239	1
6.76	K	K	1350	1	6.28	R	R	1257	1
6.75	K	K	1340	1	6.27	R	R	1273	1
6.74	K	K	1320	1	6.26	R	R	1287	1
6.73	K	K	1312	1	6.25	R	R	1304	1
6.72	K	K	1300	1	6.24	R	R	1323	1
6.71	K	K	1280	1	6.23	R	R	1357	1
6.70	K	K	1277	1	6.22	11.68	482.67	3628	1
6.69	K	K	1267	1	6.21	R	R	7370	1
6.68	K	K	1258	1	6.20	R	R	4698	1
6.67	K	K	1249	1	6.19	R	R	2587	1
6.66	K	K	1240	1	6.18	R	R	4385	1
6.65	K	K	1232	1	6.17	R	R	3778	1
6.64	K	K	1225	1	6.16	R	R	2899	1
6.63	K	K	1219	1	6.15	R	R	3307	1
6.62	K	K	1212	1	6.14	R	R	3320	1
6.61	K	K	1200	1	6.13	R	R	3052	1
6.60	K	K	1201	1	6.12	-4.66	526.87	4179	1
6.59	K	K	1190	1	6.11	.17	532.20	5161	1
6.58	K	K	1191	1	6.10	R	R	4311	1
6.57	K	K	1180	1	6.09	R	R	4419	1
6.56	K	K	1182	1	6.08	R	R	3823	1
6.55	K	K	1176	1	6.07	R	R	2378	1
6.54	K	K	1174	1	6.06	R	R	3525	1
6.53	K	K	1171	1	6.05	R	R	3041	1
6.52	K	K	1160	1	6.04	R	R	2758	1
6.51	K	K	1165	1	6.03	R	R	5561	1
6.50	K	K	1162	1	6.02	R	R	2669	1
6.49	K	K	1160	1	6.01	R	R	5351	1
6.48	K	K	1157	1	6.00	R	R	4969	1
6.47	K	K	1150	1	5.99	R	R	7302	1
6.46	K	K	1154	1	5.98	R	R	2030	1
6.45	K	K	1152	1	5.97	R	R	2031	1
6.44	K	K	1150	1	5.96	-1.06	891.19	11244	1
6.43	K	K	1150	1	5.95	6.94	775.10	7781	1
6.42	K	K	1149	1	5.94	R	R	7809	1
6.41	K	K	1147	1	5.93	R	R	2684	1

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SOYA VOYAGE (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 28.10 S

GEOGRAPHIC LONGITUDE = 47.00 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
5.9c	K	K	7657	1	5.62	R	R	5653	1
5.91	K	K	13543	1	5.61	R	R	1691	1
5.90	K	K	2815	1	5.60	R	R	1652	1
5.89	K	K	2750	1	5.59	R	R	1623	1
5.88	K	K	754c	1	5.58	R	R	1594	1
5.87	K	R	4693	1	5.57	R	R	1564	1
5.86	-6.02	602.32	7449	1	5.56	R	R	1548	1
5.85	K	K	4967	1	5.55	R	R	1544	1
5.84	K	K	3024	1	5.50	R	R	1576	1
5.83	K	K	5589	1	5.45	R	R	4451	1
5.82	K	K	9940	1	5.40	R	R	2419	1
5.81	K	K	2130	1	5.35	R	R	9973	1
5.80	K	K	2101	1	5.30	R	R	2311	1
5.79	F	F	15001	1	5.25	R	R	2933	1
5.78	K	K	3520	1	5.20	F	F	15001	1
5.77	K	K	2782	1	5.15	R	R	5659	1
5.76	4.52	851.97	8096	1	5.10	R	R	5985	1
5.75	K	R	3240	1	5.05	R	R	1451	1
5.74	K	K	2593	1	5.00	R	R	1398	1
5.73	K	K	4059	1	4.95	R	R	1455	1
5.72	K	K	3753	1	4.90	R	R	10833	1
5.71	K	K	6001	1	4.85	R	R	2675	1
5.70	K	K	6460	1	4.80	R	R	9253	1
5.69	K	K	2210	1	4.75	R	R	2734	1
5.68	K	K	4480	1	4.70	R	R	6195	1
5.67	K	R	5951	1	4.65	R	R	4691	1
5.66	K	K	3034	1	4.60	R	R	1637	1
5.65	K	K	3015	1	4.55	R	R	1486	1
5.64	K	K	4680	1	4.50	R	R	2276	1
5.63	K	K	7027	1	3.91	R	R	596	3



## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 27.60 S

GEOGRAPHIC LONGITUDE = 45.40 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
10.00	18.70	105.20	741	2	7.26	-7.90	330.26	1841	2
9.75	15.03	109.32	754	2	7.25	-17.43	376.94	2009	2
9.50	10.74	173.60	769	2	7.24	R	R	2189	2
9.25	5.80	178.22	780	2	7.23	-9.22	358.81	2441	2
9.00	.22	183.47	805	2	7.22	21.12	409.61	2651	2
8.75	-5.93	189.81	830	2	7.21	-11.23	340.41	2372	2
8.50	-12.40	198.10	859	2	7.20	13.07	497.00	4069	2
8.25	-18.42	209.94	897	2	7.19	R	R	2292	2
8.00	-21.60	228.25	952	2	7.18	-7.23	369.06	2144	2
7.90	-20.91	238.39	982	2	7.17	-20.44	316.92	1955	2
7.80	-17.85	250.81	1022	2	7.16	-13.61	311.22	1929	2
7.75	-15.08	258.10	1047	2	7.15	-17.33	338.16	2013	2
7.70	-11.21	266.65	1070	2	7.14	R	R	2303	2
7.65	-6.04	276.94	1110	2	7.13	5.78	421.74	2799	2
7.60	.35	290.69	1169	2	7.12	8.99	430.54	3128	2
7.55	1.69	294.17	1182	2	7.11	9.91	431.13	3155	2
7.50	3.01	298.02	1197	2	7.10	-21.90	325.99	2164	2
7.57	4.24	302.32	1215	2	7.09	-20.05	333.08	2236	2
7.50	5.32	307.18	1231	2	7.08	R	R	1215	2
7.55	6.14	312.70	1252	2	7.07	R	R	1188	2
7.54	6.51	319.25	1277	2	7.06	R	R	1169	2
7.55	6.17	326.97	1306	2	7.05	R	R	1153	2
7.52	4.67	336.35	1344	2	7.04	R	R	1139	2
7.51	1.34	348.24	1392	2	7.03	R	R	1126	2
7.50	-4.70	354.74	1462	2	7.02	R	R	1114	2
7.49	-12.27	363.59	1577	2	7.01	R	R	1103	2
7.40	9.40	537.84	2169	2	7.00	R	R	1093	2
7.47	8.73	435.42	2591	2	6.99	R	R	1083	2
7.40	1.23	414.09	2230	2	6.98	R	R	1074	2
7.45	33.74	457.34	2740	2	6.97	R	R	1066	2
7.44	R	R	1494	2	6.96	R	R	1058	2
7.45	R	R	1430	2	6.95	R	R	1050	2
7.42	R	R	1422	2	6.94	R	R	1226	1
7.41	R	R	1434	2	6.93	R	R	1218	1
7.40	R	R	1470	2	6.92	R	R	1210	1
7.39	3.14	359.14	2437	2	6.91	R	R	1204	1
7.30	-13.94	530.44	2984	2	6.90	R	R	1198	1
7.37	-8.97	335.99	2181	2	6.89	R	R	1192	1
7.30	6.74	432.30	3270	2	6.88	R	R	1187	1
7.35	15.89	461.60	3654	2	6.87	R	R	1182	1
7.34	R	R	5685	2	6.86	R	R	1177	1
7.35	24.09	442.42	2317	2	6.85	R	R	1173	1
7.32	-18.71	345.66	1905	2	6.84	R	R	1169	1
7.31	-21.64	317.30	1815	2	6.83	R	R	1166	1
7.30	-16.75	303.88	1770	2	6.82	R	R	1162	1
7.29	-11.83	299.45	1753	2	6.81	R	R	1158	1
7.20	-7.84	301.85	1756	2	6.80	R	R	1156	1
7.27	-5.48	311.19	1781	2	6.79	R	R	1153	1

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SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE - 27.60 S

GEOGRAPHIC LONGITUDE = 45.40 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
6.70	K	K	1150	1	6.30	R	R	2423	1
6.71	K	K	1148	1	6.29	R	R	5475	1
6.70	K	K	1146	1	6.28	6.11	501.55	5188	1
6.70	K	K	1144	1	6.27	9.66	834.07	9784	1
6.74	K	K	1142	1	6.26	R	R	6859	1
6.70	K	K	1140	1	6.25	R	R	2591	1
6.72	K	K	1139	1	6.24	R	R	7530	1
6.71	K	K	1138	1	6.23	R	R	5229	1
6.70	K	K	1137	1	6.22	R	R	5026	1
6.69	K	K	1135	1	6.21	R	R	3847	1
6.60	K	K	1135	1	6.20	R	R	2069	1
6.61	K	K	1134	1	6.19	-4.89	1040.63	12959	1
6.60	K	K	1134	1	6.18	R	R	5476	1
6.60	K	K	1135	1	6.17	R	R	7142	1
6.64	K	K	1135	1	6.16	-15.79	708.06	6890	1
6.60	K	K	1135	1	6.15	R	R	2710	1
6.62	K	K	1136	1	6.14	-19.85	682.58	7313	1
6.61	K	K	1137	1	6.13	R	R	3780	1
6.60	K	K	1139	1	6.12	R	R	2919	1
6.59	K	K	1142	1	6.11	R	R	2752	1
6.50	K	K	1146	1	6.10	R	R	7197	1
6.51	K	K	1152	1	6.09	R	R	14252	1
6.50	K	K	1160	1	6.08	R	R	4845	1
6.50	K	K	1219	1	6.07	R	R	8296	1
6.54	K	K	1242	1	6.06	-18.25	665.40	6519	1
6.50	K	K	1259	1	6.05	R	R	3310	1
6.52	K	K	1274	1	6.04	F	F	15001	1
6.51	K	K	1286	1	6.03	2.66	564.78	6310	1
6.50	K	K	1304	1	6.02	R	R	3871	1
6.49	K	K	1322	1	6.01	R	R	2033	1
6.48	K	K	1350	1	6.00	R	R	1982	1
6.47	5.30	496.70	4905	1	5.99	R	R	1980	1
6.40	2.60	531.20	5054	1	5.98	R	R	2112	1
6.40	K	K	2691	1	5.97	-11.87	669.92	6509	1
6.44	K	K	2562	1	5.96	R	R	4545	1
6.40	K	K	3372	1	5.95	R	R	6791	1
6.42	K	K	10480	1	5.94	R	R	6585	1
6.41	K	K	3002	1	5.93	R	R	3953	1
6.40	K	K	9584	1	5.92	R	R	2538	1
6.39	-12.87	710.74	6647	1	5.91	R	R	2431	1
6.30	K	K	5230	1	5.90	R	R	6770	1
6.31	3.40	505.90	4943	1	5.89	R	R	5276	1
6.30	K	K	3585	1	5.88	R	R	3646	1
6.30	K	K	3678	1	5.87	R	R	2284	1
6.34	16.35	408.82	4482	1	5.86	R	R	2203	1
6.30	6.50	537.50	5715	1	5.85	R	R	4779	1
6.32	K	K	3039	1	5.84	R	R	4997	1
6.31	K	K	2247	1	5.83	R	R	4092	1

SOYA VOYAGE (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 27.60 S

GEOGRAPHIC LONGITUDE = 45.40 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
5.82	K	R	3740	1	5.36	R	R	4274	1
5.81	K	K	2453	1	5.31	R	R	2064	1
5.80	K	K	5170	1	5.26	R	R	6110	1
5.79	K	K	4748	1	5.25	R	R	3558	2
5.78	K	K	5231	1	5.21	R	R	5344	1
5.77	K	K	1684	1	5.16	R	R	12642	1
5.76	K	K	1640	1	5.11	R	R	1403	1
5.75	K	K	1376	2	5.06	R	R	1379	1
5.71	K	K	1523	1	5.01	R	R	1437	1
5.68	K	K	1534	1	5.00	R	R	1241	2
5.61	K	K	1691	1	4.96	R	R	5588	1
5.58	K	K	2557	1	4.91	R	R	6005	1
5.51	K	K	2355	1	4.86	R	R	3000	1
5.50	K	K	4255	2	4.81	R	R	14017	1
5.48	K	K	7606	1	4.76	R	R	2694	1
5.41	K	K	2231	1	4.71	R	R	3463	1
					4.00	R	R	520	3

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## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 25.50 S

GEOGRAPHIC LONGITUDE = 50.70 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
11.00	19.64	170.91	739	2	8.35	-.27	514.89	3841	2
10.75	16.30	175.01	752	2	8.34	7.10	428.11	2803	2
10.50	12.32	179.30	767	2	8.33	4.33	464.96	2949	2
10.25	7.65	183.85	785	2	8.32	20.58	402.48	2192	2
10.00	2.18	189.02	804	2	8.31	-21.43	344.53	1901	2
9.75	-4.04	195.00	828	2	8.30	-20.89	318.34	1813	2
9.50	-10.92	202.80	859	2	8.29	-15.36	306.37	1774	2
9.25	-17.92	213.78	894	2	8.28	-10.39	303.11	1760	2
9.00	-23.05	231.11	957	2	8.27	-6.29	306.82	1767	2
8.75	-18.70	261.84	1062	2	8.26	-3.90	317.96	1801	2
8.75	-18.08	263.42	1066	2	8.25	-7.53	340.13	1879	2
8.72	-17.42	265.04	1074	2	8.24	-13.15	400.42	2128	2
8.71	-16.64	266.64	1080	2	8.23	13.55	442.77	3076	2
8.70	-15.92	258.41	1087	2	8.22	-11.08	358.77	2432	2
8.69	-15.08	270.17	1094	2	8.21	-13.22	349.82	2405	2
8.68	-14.18	271.99	1102	2	8.20	15.26	502.64	3526	2
8.67	-13.22	273.87	1109	2	8.19	R	R	2092	2
8.66	-12.20	275.82	1117	2	8.18	9.54	392.30	2312	2
8.65	-11.10	277.85	1117	1	8.17	-21.72	324.08	2016	2
8.64	-9.95	279.98	1127	1	8.16	-13.04	310.98	1972	2
8.63	-8.70	282.21	1144	2	8.15	-11.91	326.48	2037	2
8.62	-7.34	284.54	1154	2	8.14	.98	411.58	2444	2
8.61	-6.01	287.02	1165	2	8.13	-15.60	596.96	5185	2
8.60	-4.50	289.67	1177	2	8.12	-6.78	405.63	3126	2
8.59	-3.04	292.51	1190	2	8.11	9.26	470.06	3370	2
8.58	-1.40	295.50	1203	2	8.10	R	R	1225	2
8.57	.15	298.94	1218	2	8.09	R	R	1197	2
8.56	1.70	302.65	1235	2	8.08	R	R	1174	2
8.55	3.34	306.79	1253	2	8.07	R	R	1153	2
8.54	4.92	311.40	1274	2	8.06	R	R	1134	2
8.53	6.26	316.87	1297	2	8.05	R	R	1115	2
8.52	7.25	323.16	1325	2	8.04	R	R	1096	2
8.51	7.64	330.70	1356	2	8.03	R	R	1076	2
8.50	6.94	339.87	1390	2	8.02	R	R	1057	2
8.49	4.60	351.45	1444	2	8.01	R	R	1040	2
8.48	-.54	367.15	1510	2	8.00	R	R	1028	2
8.47	-8.95	392.82	1624	2	7.99	R	R	1197	1
8.46	15.64	408.45	2011	2	7.98	R	R	1188	1
8.45	R	R	2055	2	7.97	R	R	1180	1
8.44	-5.28	405.34	2342	2	7.96	R	R	1173	1
8.43	53.54	446.40	2885	2	7.95	R	R	1167	1
8.42	R	R	1504	2	7.94	R	R	1162	1
8.41	R	R	1476	2	7.93	R	R	1157	1
8.40	R	R	1462	2	7.92	R	R	1153	1
8.39	R	R	1460	2	7.91	R	R	1149	1
8.38	R	R	1470	2	7.90	R	R	1145	1
8.37	R	R	4050	2	7.89	R	R	1142	1
8.36	-13.80	341.64	2154	2	7.88	R	R	1139	1

SOYA VOYAGE (CONTINUED) - PAGE 2)

GEOGRAPHIC LATITUDE = 25.35 S

GEOGRAPHIC LONGITUDE = 50.70 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
7.81	K	K	1130	1	7.39	2.24	384.96	2583	1
7.80	K	K	1135	1	7.38	5.04	386.89	2588	1
7.85	K	K	1130	1	7.37	R	R	4803	1
7.84	K	K	1128	1	7.36	2.86	755.81	8246	1
7.85	K	K	1125	1	7.35	R	R	2498	1
7.84	K	K	1122	1	7.34	R	R	2278	1
7.81	K	K	1121	1	7.33	R	R	2233	1
7.80	K	K	1119	1	7.32	.96	595.39	5729	1
7.79	K	K	1117	1	7.31	R	R	4346	1
7.78	K	K	1115	1	7.30	R	R	4701	1
7.71	K	K	1114	1	7.29	9.62	441.89	3126	1
7.70	K	K	1112	1	7.28	R	R	3321	1
7.75	K	K	1111	1	7.27	R	R	4023	1
7.74	K	K	1110	1	7.26	R	R	2967	1
7.75	K	K	1109	1	7.25	R	R	9011	1
7.72	K	K	1108	1	7.24	R	R	6725	1
7.71	K	K	1107	1	7.23	R	R	3920	1
7.70	K	K	1106	1	7.22	18.61	462.76	4072	1
7.69	K	K	1105	1	7.21	10.05	443.86	3767	1
7.60	K	K	1105	1	7.20	R	R	3037	1
7.61	K	K	1105	1	7.19	R	R	3757	1
7.60	K	K	1104	1	7.18	R	R	3450	1
7.65	K	K	1104	1	7.17	7.56	390.95	2928	1
7.64	K	K	1104	1	7.16	-7.74	591.58	4693	1
7.65	K	K	1105	1	7.15	R	R	2747	1
7.62	K	K	1105	1	7.14	16.49	508.74	3440	1
7.61	K	K	1105	1	7.13	-5.15	648.54	7002	1
7.60	K	K	1106	1	7.12	R	R	3674	1
7.59	K	K	1107	1	7.11	R	R	7077	1
7.58	K	K	1108	1	7.10	R	R	2936	1
7.51	K	K	1109	1	7.09	R	R	4718	1
7.50	K	K	1112	1	7.08	R	R	4539	1
7.55	K	K	1115	1	7.07	-11.92	640.57	4583	1
7.54	K	K	1114	1	7.06	7.98	887.40	7897	1
7.55	K	K	1124	1	7.05	-6.92	625.97	3847	1
7.52	K	K	1135	1	7.04	4.81	570.42	4918	1
7.51	K	K	1330	1	7.03	R	R	3179	1
7.50	K	K	1360	1	7.02	R	R	5414	1
7.49	K	K	2145	1	7.01	R	R	3180	1
7.48	K	K	3425	1	7.00	R	R	4198	1
7.41	-1.42	304.94	3223	1	6.99	R	R	619	1
7.40	11.44	342.48	3265	1	6.98	R	R	2098	1
7.45	-14.95	548.54	5010	1	6.97	R	R	2029	1
7.44	2.70	376.91	3200	1	6.96	R	R	1974	1
7.45	.44	540.32	4694	1	6.95	R	R	1436	1
7.42	.85	549.25	5821	1	6.94	R	R	1911	1
7.41	K	K	2081	1	6.93	R	R	1900	1
7.40	K	K	3150	1	6.92	R	R	1910	1

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SOYA VOYAGE (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 25.50 S

GEOGRAPHIC LONGITUDE = 50.70 E

P	ASYMPTOTIC LAT	LONG	VSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
6.91	K	K	9855	1	6.43	R	R	1503	1
6.90	-2.02	570.46	5630	1	6.42	R	R	1508	1
6.89	K	K	2749	1	6.41	R	R	1512	1
6.88	K	K	8001	1	6.40	R	R	1517	1
6.87	K	K	2731	1	6.39	R	R	1523	1
6.86	K	K	3265	1	6.38	R	R	1528	1
6.85	K	K	2300	1	6.33	R	R	1562	1
6.84	K	K	2357	1	6.28	R	K	2675	1
6.83	K	K	2491	1	6.25	R	R	5484	2
6.82	K	K	4184	1	6.23	R	R	2946	1
6.81	K	K	3009	1	6.18	R	R	3850	1
6.80	K	K	3903	1	6.13	R	R	3323	1
6.79	K	K	8533	1	6.08	R	R	3541	1
6.78	K	K	2378	1	6.03	R	R	2107	1
6.77	K	K	2187	1	6.00	R	R	4622	2
6.76	K	K	2195	1	5.98	R	R	2658	1
6.75	K	K	3602	1	5.93	R	R	5154	1
6.74	K	K	6790	1	5.88	R	R	1974	1
6.73	K	K	6035	1	5.83	R	R	4687	1
6.72	K	K	5632	1	5.78	R	R	7455	1
6.71	K	K	4511	1	5.75	R	R	1794	2
6.70	K	K	9073	1	5.73	R	R	3513	1
6.69	K	K	2579	1	5.70	R	R	1997	2
6.68	K	K	4782	1	5.68	R	R	2935	1
6.67	K	K	3279	1	5.65	R	R	1312	2
6.66	K	K	1690	1	5.63	R	R	1468	1
6.65	K	K	1655	1	5.60	R	R	1140	2
6.64	K	K	1503	1	5.59	R	R	1133	2
6.63	K	K	1482	1	5.58	R	R	1319	1
6.62	K	K	1473	1	5.57	R	R	1121	2
6.61	K	K	1469	1	5.56	R	R	1116	2
6.60	K	K	1466	1	5.55	R	R	1112	2
6.59	K	K	1464	1	5.54	R	R	1108	2
6.58	K	K	1463	1	5.53	R	R	1294	1
6.57	K	K	1463	1	5.52	R	R	1103	2
6.56	K	K	1463	1	5.51	R	R	1101	2
6.55	K	K	464	1	5.50	R	R	1102	2
6.54	K	K	1465	1	5.48	R	R	1304	1
6.53	K	K	1467	1	5.43	R	R	1382	1
6.52	K	K	1469	1	5.35	R	R	4301	1
6.51	K	K	1472	1	5.33	R	R	2015	1
6.50	K	K	1474	1	5.25	R	R	1608	2
6.49	K	K	1478	1	5.00	R	R	3043	2
6.48	K	K	1481	1	4.70	R	R	2268	2
6.47	K	K	1485	1	4.65	R	R	4802	2
6.46	K	K	1489	1	4.60	R	R	1269	2
6.45	K	R	1494	1	4.55	R	R	1325	2
6.44	K	K	498	1	4.54	R	K	10974	2

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SOYA VOYAGE (CONTINUED - PAGE 4)

GEOGRAPHIC LATITUDE = 25.50 S

GEOGRAPHIC LONGITUDE = 50.70 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.50	K	K	8570	2
4.52	K	K	1671	2

P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.51	R	R	3437	2
4.49	F	F	12003	3

C234

## PROJECT MAGNET FLIGHT

GEOGRAPHIC LATITUDE = 34.58 N

GEOGRAPHIC LONGITUDE = 346.63 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
15.00	-12.54	78.52	125	10	8.89	-12.57	294.46	2230	1
14.00	-14.83	86.64	127	10	8.88	3.88	343.15	2455	1
13.00	-15.13	97.30	186	9	8.87	R	R	4442	1
12.00	-11.28	111.13	750	2	8.86	17.43	411.38	3979	1
11.50	-6.79	119.40	782	2	8.85	R	R	4553	1
11.00	.01	129.02	815	2	8.84	5.45	470.48	4939	1
10.50	9.33	141.32	860	2	8.83	-16.41	337.05	2992	1
10.00	19.82	160.51	920	2	8.82	R	R	2448	1
9.90	21.48	166.00	381	7	8.81	2.50	499.66	4886	1
9.80	22.60	172.40	389	7	8.80	-3.23	312.16	2557	1
9.75	22.94	176.00	970	2	8.79	-4.15	295.91	2528	1
9.70	23.00	179.44	398	7	8.78	1.01	351.53	2854	1
9.60	22.14	188.44	410	7	8.77	-1.41	402.04	4268	1
9.50	19.39	198.32	1053	2	8.76	-12.84	366.37	3459	1
9.40	13.55	209.60	441	7	8.75	R	R	1520	1
9.30	2.93	223.30	460	7	8.74	R	R	1469	1
9.25	-5.00	232.22	1204	2	8.73	R	R	1430	1
9.20	-15.30	244.71	508	7	8.72	R	R	1393	1
9.14	-17.67	248.10	1505	1	8.71	R	R	1354	1
9.18	-20.01	252.09	1520	1	8.70	R	R	1286	1
9.17	-22.33	256.64	1544	1	8.69	R	R	1253	1
9.10	-24.52	262.02	1575	1	8.68	R	R	1237	1
9.15	-26.42	268.50	1605	1	8.67	R	R	1226	1
9.14	-27.70	276.40	1640	1	8.66	R	R	1218	1
9.13	-27.85	286.12	1682	1	8.65	R	R	1031	2
9.12	-25.92	298.11	1730	1	8.64	R	R	1204	1
9.11	-20.20	312.90	1607	1	8.63	R	R	1198	1
9.10	-7.47	332.90	1910	1	8.62	R	R	1192	1
9.04	15.24	360.52	2201	1	8.61	R	R	1187	1
9.08	N	N	2320	1	8.60	R	R	1183	1
9.07	4.07	376.00	2870	1	8.59	R	R	1178	1
9.06	N	N	2150	1	8.58	R	R	1175	1
9.05	N	N	1794	1	8.57	R	R	1171	1
9.04	N	N	1754	1	8.56	R	R	1167	1
9.03	N	N	1730	1	8.55	R	R	1164	1
9.02	N	N	1732	1	8.54	R	R	1161	1
9.01	N	N	1736	1	8.53	R	R	1158	1
9.00	20.44	586.70	6181	1	8.52	R	R	1155	1
8.99	-9.86	322.87	2701	1	8.51	R	R	1152	1
8.98	-5.21	613.45	5211	1	8.50	R	R	1150	1
8.97	N	N	2214	1	8.49	R	R	1148	1
8.96	N	N	5473	1	8.48	R	R	1145	1
8.95	-10.08	326.91	2390	1	8.47	R	R	1143	1
8.94	-2.47	289.70	2220	1	8.46	R	R	1141	1
8.93	-5.43	274.87	2163	1	8.45	R	R	1139	1
8.92	-9.60	270.90	2140	1	8.44	R	R	1137	1
8.91	-13.24	276.55	2163	1	8.43	R	R	1136	1
8.90	-13.34	276.50	1857	2	8.42	R	R	1134	1



PROJECT MAGNET FLIGHT

(CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 34.58 N

GEOGRAPHIC LONGITUDE = 346.63 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
8.41	K	K	1133	1	7.93	R	R	2751	1
8.40	K	K	1132	1	7.92	R	R	2397	1
8.39	K	K	1130	1	7.91	R	R	2298	1
8.38	K	K	1129	1	7.90	R	R	2255	1
8.37	K	R	1128	1	7.89	R	R	4371	1
8.36	K	R	1126	1	7.88	R	R	6209	1
8.35	K	K	1126	1	7.87	R	R	2639	1
8.34	K	K	1125	1	7.86	R	R	3518	1
8.33	K	K	1124	1	7.85	R	R	6354	1
8.32	K	K	1123	1	7.84	R	R	3386	1
8.31	K	K	1122	1	7.83	R	R	2562	1
8.30	K	K	1122	1	7.82	R	R	3361	1
8.29	K	K	1121	1	7.81	-6.73	544.26	5615	1
8.28	K	K	1121	1	7.80	11.75	482.40	4363	1
8.27	K	K	1120	1	7.79	R	R	4920	1
8.26	K	K	1120	1	7.78	R	R	3665	1
8.25	K	K	1120	1	7.77	R	R	10075	1
8.24	K	K	1119	1	7.76	R	R	4240	1
8.23	K	K	1119	1	7.75	R	R	6771	1
8.22	K	K	1119	1	7.74	R	R	8087	1
8.21	K	K	1118	1	7.73	R	R	2975	1
8.20	K	R	1119	1	7.72	-4.85	513.66	6311	1
8.19	K	K	1119	1	7.71	R	R	2624	1
8.18	K	K	1119	1	7.70	-2.10	606.98	5889	1
8.17	K	K	1119	1	7.69	-1.48	557.91	5139	1
8.16	K	K	1119	1	7.68	R	R	3563	1
8.15	K	K	1120	1	7.67	R	R	2701	1
8.14	K	K	1120	1	7.66	R	R	4149	1
8.13	K	K	1120	1	7.65	R	R	5408	1
8.12	K	K	1121	1	7.64	17.26	468.97	5340	1
8.11	K	K	1122	1	7.63	5.97	429.00	4243	1
8.10	R	K	1123	1	7.62	20.12	453.49	4387	1
8.09	K	R	1124	1	7.61	16.20	508.64	4855	1
8.08	K	K	1126	1	7.60	R	R	5526	1
8.07	K	R	1127	1	7.59	18.30	861.93	8811	1
8.06	K	R	1128	1	7.58	R	R	3353	1
8.05	K	R	1130	1	7.57	R	R	5838	1
8.04	K	K	1132	1	7.56	17.91	451.91	4381	1
8.03	K	R	1136	1	7.55	2.25	582.17	5851	1
8.02	K	R	1139	1	7.54	R	R	3272	1
8.01	R	R	1143	1	7.53	7.54	728.48	6362	1
8.00	K	R	1150	1	7.52	-4.8	553.90	5344	1
7.99	K	R	2695	1	7.51	R	R	3059	1
7.98	K	K	2918	1	7.50	R	R	2283	1
7.97	6.44	401.44	3624	1	7.49	R	R	2223	1
7.96	K	K	4955	1	7.48	R	R	2143	1
7.95	K	R	3428	1	7.47	R	R	2078	1
7.94	-16.07	929.62	10556	1	7.46	R	R	2024	1

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PROJECT MAGNET FLIGHT (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 34.58 N

GEOGRAPHIC LONGITUDE = 346.63 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
7.45	K	K	1983	1	6.97	R	R	1467	1
7.44	K	K	1951	1	6.96	R	R	1466	1
7.43	K	K	1926	1	6.95	R	R	1466	1
7.42	K	K	1910	1	6.94	R	R	1467	1
7.41	K	K	1898	1	6.93	R	R	1468	1
7.40	K	K	1893	1	6.92	R	R	1468	1
7.39	K	K	1898	1	6.91	R	R	1470	1
7.38	K	K	5204	1	6.87	R	R	1477	1
7.37	K	K	4010	1	6.86	R	R	1479	1
7.36	K	K	3292	1	6.82	R	R	1491	1
7.35	K	K	2761	1	6.81	R	R	1495	1
7.34	K	K	4193	1	6.77	R	R	1511	1
7.33	K	K	2762	1	6.76	R	R	1516	1
7.32	K	K	4312	1	6.72	R	R	1536	1
7.31	K	K	4681	1	6.71	R	R	1542	1
7.30	K	K	2284	1	6.67	R	R	2627	1
7.29	K	K	2321	1	6.66	R	R	4640	1
7.28	K	K	2434	1	6.62	R	R	4620	1
7.27	K	K	3513	1	6.61	R	R	2980	1
7.26	K	K	5216	1	6.57	R	R	2349	1
7.25	K	K	3060	1	6.56	R	R	3079	1
7.24	K	R	3217	1	6.52	R	R	3735	1
7.23	K	K	7674	1	6.51	R	R	3132	1
7.22	K	K	2894	1	6.47	R	R	2597	1
7.21	K	K	3370	1	6.46	R	R	4744	1
7.20	K	K	2338	1	6.42	R	R	2000	1
7.19	K	K	2224	1	6.41	R	R	2014	1
7.18	K	K	2298	1	6.37	R	R	2746	1
7.17	K	K	6480	1	6.36	R	R	5076	1
7.16	K	K	2843	1	6.32	R	R	5514	1
7.15	K	K	3064	1	6.31	R	R	2553	1
7.14	K	K	3615	1	6.27	R	R	6552	1
7.13	K	K	4846	1	6.26	R	R	1988	1
7.12	K	K	3633	1	6.22	R	R	5247	1
7.11	K	K	5981	1	6.21	R	R	4140	1
7.10	K	K	4863	1	6.17	R	R	5941	1
7.09	K	K	2790	1	6.16	R	R	4464	1
7.08	K	K	3603	1	6.12	R	R	2130	1
7.07	K	K	3149	1	6.11	R	R	2044	1
7.06	K	K	4817	1	6.07	R	R	5299	1
7.05	K	K	1495	1	6.06	R	R	3517	1
7.04	K	R	1486	1	6.02	R	R	3487	1
7.03	K	K	1480	1	5.97	R	R	1366	1
7.02	K	R	1476	1	5.92	R	R	1333	1
7.01	K	K	1472	1	5.91	R	R	923	4
7.00	K	K	1470	1	5.87	R	R	1319	1
6.99	K	K	1469	1	5.22	R	R	2219	4
6.98	K	K	1467	1	5.03	R	R	580	4

## PROJECT MAGNET FLIGHT

GEOGRAPHIC LATITUDE = 33.60 N

GEOGRAPHIC LONGITUDE = 346.33 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
15.00	-12.94	81.44	124	10	9.41	-8.40	270.28	2154	1
14.00	-14.82	90.51	128	10	9.40	-12.95	272.84	2182	1
13.00	-14.23	102.40	189	9	9.39	-14.36	286.21	2256	1
12.00	-8.47	117.89	775	2	9.38	-14	329.05	2457	1
11.50	-2.41	127.50	800	2	9.37	R	R	2615	1
11.00	6.40	139.51	652	2	9.36	4.64	557.79	5334	1
10.90	8.57	142.43	288	8	9.35	R	R	3289	1
10.80	10.71	145.63	292	8	9.34	-12.51	390.97	3354	1
10.70	13.04	149.15	290	8	9.33	-9.90	414.85	4115	1
10.60	15.33	153.11	301	8	9.32	R	R	2484	1
10.50	17.59	157.59	917	2	9.31	-7.26	331.22	2686	1
10.40	19.64	162.75	377	7	9.30	-3.96	291.72	2582	1
10.30	21.48	168.71	385	7	9.29	-2.20	320.71	2774	1
10.20	22.64	175.84	395	7	9.28	R	R	2977	1
10.10	22.90	184.11	400	7	9.27	R	R	1550	1
10.00	21.44	193.95	1042	2	9.26	R	R	1484	1
9.90	17.23	205.30	430	7	9.25	R	R	1433	1
9.80	8.47	218.85	460	7	9.24	R	R	1258	1
9.75	1.40	226.97	1190	2	9.23	R	R	1241	1
9.70	-8.00	237.34	1247	2	9.22	R	R	1230	1
9.69	-10.34	239.92	1473	1	9.21	R	R	1221	1
9.60	-12.72	242.70	1490	1	9.20	R	R	1213	1
9.61	-15.22	245.99	1509	1	9.19	R	R	1206	1
9.60	-17.80	249.65	1530	1	9.18	R	R	1199	1
9.65	-20.44	253.91	1554	1	9.17	R	R	1194	1
9.64	-23.04	258.90	1580	1	9.16	R	R	1188	1
9.63	-25.40	265.07	1611	1	9.15	R	R	1183	1
9.62	-27.47	272.61	1640	1	9.14	R	R	1178	1
9.61	-28.55	282.05	1689	1	9.13	R	R	1174	1
9.60	-27.75	293.94	1743	1	9.12	R	R	1170	1
9.59	-23.35	308.80	1817	1	9.11	R	R	1167	1
9.50	-11.99	328.30	1930	1	9.10	R	R	1163	1
9.51	12.31	306.80	2201	1	9.09	R	R	1159	1
9.50	N	N	2312	1	9.08	R	R	1157	1
9.50	4.72	304.30	2948	1	9.07	R	R	1154	1
9.54	N	N	1843	1	9.06	R	R	1151	1
9.50	N	N	1773	1	9.05	R	R	1148	1
9.52	N	N	1743	1	9.04	R	R	1146	1
9.51	N	N	1733	1	9.03	R	R	1144	1
9.50	N	N	1735	1	9.02	R	R	1141	1
9.49	N	N	1764	1	9.01	R	R	1140	1
9.40	-9.79	330.39	2773	1	9.00	R	R	1138	1
9.41	7.43	739.05	7470	1	8.99	R	R	1136	1
9.40	N	N	4292	1	8.98	N	R	1134	1
9.45	N	N	2264	1	8.97	R	R	1133	1
9.44	-0.14	413.51	2890	1	8.96	R	R	1132	1
9.43	-2.73	303.35	2290	1	8.95	R	R	1131	1
9.42	-3.72	278.82	2190	1	8.94	R	R	1129	1

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## PROJECT MAGNET FLIGHT (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 33.60 N

GEOGRAPHIC LONGITUDE = 346.33 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
8.93	R	R	1126	1	8.45	R	R	2682	1
8.92	R	R	1127	1	8.44	4.08	664.10	5764	1
8.91	R	R	1127	1	8.43	-12.98	336.74	2973	1
8.90	R	R	1126	1	8.42	R	R	4176	1
8.89	R	R	1125	1	8.41	-8.06	542.53	5617	1
8.88	R	R	1125	1	8.40	R	R	2417	1
8.87	R	R	1124	1	8.39	R	R	2436	1
8.86	R	R	1124	1	8.38	R	R	2588	1
8.85	R	R	1123	1	8.37	-4.25	534.28	4839	1
8.84	R	R	1123	1	8.36	R	R	3293	1
8.83	R	R	1123	1	8.35	-12.66	345.26	2460	1
8.82	R	R	1123	1	8.34	-10.14	321.15	2339	1
8.81	R	R	1123	1	8.33	-9.35	310.63	2294	1
8.80	R	R	1123	1	8.32	-9.71	306.50	2276	1
8.79	R	R	1123	1	8.31	-10.98	307.09	2279	1
8.78	R	R	1124	1	8.30	-13.15	312.65	2303	1
8.77	R	R	1124	1	8.29	-15.93	325.72	2357	1
8.76	R	R	1125	1	8.28	-14.43	356.85	2488	1
8.75	R	R	1125	1	8.27	R	R	3544	1
8.74	R	R	1126	1	8.26	10.11	449.38	3891	1
8.73	R	R	1127	1	8.25	R	R	3578	1
8.72	R	R	1128	1	8.24	R	R	4076	1
8.71	R	R	1129	1	8.23	-13.17	544.66	5254	1
8.70	R	R	1131	1	8.22	R	R	9447	1
8.69	R	R	1132	1	8.21	R	R	2303	1
8.68	R	R	1134	1	8.20	R	R	2132	1
8.67	R	R	1136	1	8.19	R	R	2021	1
8.66	R	R	1139	1	8.18	R	R	1973	1
8.65	R	R	1142	1	8.17	R	R	1943	1
8.64	R	R	1146	1	8.16	R	R	1921	1
8.63	R	R	1151	1	8.15	R	R	1906	1
8.62	R	R	1158	1	8.14	R	R	1898	1
8.61	R	R	3012	1	8.13	R	R	1897	1
8.60	2.01	441.83	4125	1	8.12	R	R	1912	1
8.59	R	R	2386	1	8.11	R	R	3101	1
8.58	R	R	2290	1	8.10	R	R	2621	1
8.57	R	R	2304	1	8.09	R	R	3466	1
8.56	R	R	3116	1	8.08	R	R	2840	1
8.55	R	R	2773	1	8.07	R	R	3127	1
8.54	-12.52	332.70	2975	1	8.06	R	R	4657	1
8.53	R	R	3261	1	8.05	R	R	2298	1
8.52	R	R	2665	1	8.04	R	R	2395	1
8.51	R	R	4781	1	8.03	R	R	3436	1
8.50	R	R	3035	1	8.02	R	R	3213	1
8.49	R	R	9426	1	8.01	R	R	4470	1
8.48	R	R	4293	1	8.00	R	R	3319	1
8.47	R	R	3154	1	7.99	R	R	8462	1
8.46	21.86	436.87	5004	1	7.98	R	R	4939	1

PROJECT MAGNET FLIGHT (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 33.60 N

GEOGRAPHIC LONGITUDE = 346.33 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
7.91	K	K	3017	1	7.52	R	R	1490	1
7.90	K	K	3380	1	7.48	R	R	1503	1
7.95	K	K	2388	1	7.47	R	R	1507	1
7.94	K	K	2237	1	7.43	R	R	1522	1
7.95	K	K	5154	1	7.42	R	R	1527	1
7.92	K	K	6685	1	7.38	R	R	1546	1
7.91	K	K	3006	1	7.37	R	R	1551	1
7.90	K	K	2642	1	7.33	R	R	1571	1
7.89	K	R	2763	1	7.32	R	R	1576	1
7.80	K	K	4222	1	7.28	R	R	1592	1
7.81	K	K	3574	1	7.27	R	R	1592	1
7.80	K	K	5699	1	7.23	R	R	1596	1
7.85	K	K	1506	1	7.22	R	R	1603	1
7.84	K	K	1497	1	7.18	R	R	4375	1
7.85	K	K	1489	1	7.17	R	R	5540	1
7.82	K	K	1484	1	7.13	R	R	5935	1
7.81	K	K	1480	1	7.12	R	R	2268	1
7.80	K	R	1476	1	7.08	R	R	2454	1
7.79	K	K	1473	1	7.07	R	R	3235	1
7.70	K	K	1471	1	7.03	R	R	2964	1
7.71	K	K	1469	1	7.02	R	R	5381	1
7.70	K	K	1467	1	6.98	R	R	3716	1
7.75	K	K	1466	1	6.97	R	R	6905	1
7.74	K	K	1465	1	6.93	R	R	2615	1
7.75	K	K	1464	1	6.92	R	R	4929	1
7.72	K	K	1464	1	6.88	R	R	1994	1
7.71	K	K	1464	1	6.87	R	R	1965	1
7.70	K	K	1463	1	6.83	R	R	2017	1
7.69	K	K	1464	1	6.82	R	R	2036	1
7.60	K	R	1465	1	6.78	R	R	3709	1
7.61	K	K	1465	1	6.77	R	R	2951	1
7.60	K	K	1466	1	6.73	R	R	2613	1
7.65	K	R	1466	1	6.68	R	R	3513	1
7.64	K	R	1467	1	6.66	R	R	2700	5
7.65	K	R	1466	1	6.63	R	R	2982	1
7.50	K	K	1476	1	6.58	R	R	1910	1
7.51	K	K	1476	1	6.93	R	R	7744	4
7.55	K	K	1487	1	6.74	R	R	1882	4

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## PROJECT MAGNET FLIGHT

GEOGRAPHIC LATITUDE = 52.65 N

GEOGRAPHIC LONGITUDE = 346.07 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
15.00	-13.10	64.45	125	10	9.79	1.36	394.18	4068	1
14.00	-14.60	94.35	130	10	9.78	R	R	5445	1
13.00	-12.98	107.50	193	9	9.77	-17.82	344.09	3121	1
12.00	-5.02	124.97	797	2	9.76	R	R	2464	1
11.50	2.86	136.44	839	2	9.75	-15.26	380.20	2972	1
11.20	9.11	145.25	291	8	9.74	-3.37	293.94	2683	1
11.10	11.42	148.75	295	8	9.73	-1.47	315.49	2776	1
11.00	13.80	152.65	900	2	9.72	R	R	2902	1
10.90	16.17	157.08	305	8	9.71	R	R	1271	1
10.80	18.47	162.70	311	8	9.70	R	R	1253	1
10.70	20.54	168.16	318	8	9.69	R	R	1240	1
10.60	22.10	175.20	326	8	9.68	R	R	1229	1
10.50	22.74	183.75	1009	2	9.67	R	R	1221	1
10.40	21.71	193.84	420	7	9.66	R	R	1213	1
10.30	17.30	205.85	438	7	9.65	R	R	1205	1
10.20	14.27	212.64	1122	2	9.64	R	R	1199	1
10.20	8.68	220.17	465	7	9.63	R	R	1193	1
10.10	-9.15	240.31	500	7	9.62	R	R	1187	1
10.09	-11.60	243.22	1501	1	9.61	R	R	1182	1
10.08	-14.34	246.51	1521	1	9.60	R	R	1177	1
10.07	-17.14	250.22	1544	1	9.59	R	R	1173	1
10.06	-20.02	254.70	1569	1	9.58	R	R	1169	1
10.05	-22.90	259.99	1598	1	9.57	R	R	1165	1
10.04	-25.61	266.49	1631	1	9.56	R	R	1161	1
10.03	-27.85	274.60	1672	1	9.55	R	R	1157	1
10.02	-28.90	285.14	1721	1	9.54	R	R	1155	1
10.01	-27.55	298.56	1784	1	9.53	R	R	1151	1
10.00	-21.20	315.70	1615	2	9.52	R	R	1149	1
9.99	-4.61	339.80	2042	1	9.51	R	R	1146	1
9.98	-4.48	403.55	2400	1	9.50	R	R	1144	1
9.97	3.20	416.54	3107	1	9.49	R	R	1142	1
9.96	R	R	1474	1	9.48	R	R	1140	1
9.95	R	R	1781	1	9.47	R	R	1138	1
9.94	R	R	1744	1	9.46	R	R	1137	1
9.93	R	R	1737	1	9.45	R	R	1136	1
9.92	R	R	1741	1	9.44	R	R	1134	1
9.91	R	R	1775	1	9.43	R	R	1133	1
9.90	-12.45	310.60	2096	1	9.42	R	R	1132	1
9.89	2.51	371.51	3045	1	9.41	R	R	1131	1
9.88	R	R	2200	1	9.40	R	R	1131	1
9.87	R	R	2814	1	9.39	R	R	1131	1
9.86	-4.84	316.14	2367	1	9.38	R	R	1130	1
9.85	-3.11	282.94	2236	1	9.37	R	R	1129	1
9.84	-8.21	271.70	2210	1	9.36	R	R	1129	1
9.83	-13.20	273.92	2227	1	9.35	R	R	1129	1
9.82	-14.51	291.21	2302	1	9.34	R	R	1129	1
9.81	4.53	344.15	2570	1	9.33	R	R	1129	1
9.80	R	R	3071	1	9.32	R	R	1129	1

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PROJECT MAGNET FLIGHT (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 32.65 N

GEOGRAPHIC LONGITUDE = 346.03 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
9.31	H	H	1129	1	8.83	R	R	1999	1
9.30	H	H	1129	1	8.82	R	R	1957	1
9.29	H	H	1130	1	8.81	R	R	1929	1
9.28	H	H	1131	1	8.80	R	R	1914	1
9.27	H	H	1131	1	8.79	R	R	1911	1
9.26	H	H	1132	1	8.78	R	R	1928	1
9.25	H	H	1133	1	8.77	R	R	2662	1
9.24	H	H	1134	1	8.76	R	R	3821	1
9.23	H	H	1136	1	8.75	R	R	6631	1
9.22	H	H	1136	1	8.74	R	R	2316	1
9.21	H	H	1140	1	8.73	R	R	2351	1
9.20	H	H	1141	1	8.72	R	R	3618	1
9.19	H	H	1146	1	8.71	R	R	4635	1
9.18	H	H	1149	1	8.70	-0.21	373.25	2873	1
9.17	H	H	1153	1	8.69	R	R	3614	1
9.16	H	H	1159	1	8.68	R	R	3252	1
9.15	H	R	1166	1	8.67	R	R	3972	1
9.14	H	R	1181	1	8.66	R	R	2291	1
9.13	H	H	3963	1	8.65	R	R	2283	1
9.12	H	R	2824	1	8.64	R	R	3966	1
9.11	-16.04	305.83	2918	1	8.63	R	R	3453	1
9.10	-0.78	412.30	4329	1	8.62	R	R	2921	1
9.09	H	H	2719	1	8.61	R	R	1528	1
9.08	-2.00	357.43	3822	1	8.60	R	R	1514	1
9.07	-1.10	365.61	3823	1	8.59	R	R	1505	1
9.06	H	R	2759	1	8.58	R	R	1498	1
9.05	-3.64	368.36	3834	1	8.57	R	R	1494	1
9.04	-13.65	315.76	2957	1	8.56	R	R	1489	1
9.03	3.03	339.54	4966	1	8.55	R	R	1487	1
9.02	17.99	410.74	3889	1	8.54	R	R	1484	1
9.01	H	H	2423	1	8.53	R	R	1483	1
9.00	H	H	3726	1	8.52	R	H	1481	1
8.99	-12.23	365.56	2686	1	8.51	R	R	1481	1
8.98	-2.84	343.81	2389	1	8.50	R	R	1481	1
8.97	-2.00	284.53	2266	1	8.49	R	R	1480	1
8.96	-2.19	274.12	2214	1	8.48	R	R	1485	1
8.95	-2.30	268.46	2183	1	8.47	R	R	1496	1
8.94	-2.36	266.22	2164	1	8.46	R	R	1514	1
8.93	-2.64	266.86	2152	1	8.45	R	R	1542	1
8.92	-3.86	270.43	2152	1	8.44	R	R	1589	1
8.91	-5.86	277.52	2184	1	8.43	R	R	1652	1
8.90	-10.52	290.03	2241	1	8.42	R	R	1728	1
8.89	-18.27	315.42	2355	1	8.41	R	R	1802	1
8.88	13.82	448.02	3146	1	8.40	R	R	3601	1
8.87	H	H	3646	1	7.99	R	R	2509	1
8.86	H	H	4924	1	7.98	R	R	4124	1
8.85	4.95	349.84	3737	1	7.97	R	R	3264	1
8.84	H	H	2070	1	7.96	R	R	3369	1

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PROJECT MAGNET FLIGHT (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 32.65 N

GEOGRAPHIC LONGITUDE = 346.03 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
7.74	K	K	3464	1	7.59	R	R	2120	1
7.74	K	K	3878	1	7.54	R	R	2156	1
7.64	K	K	2848	1	7.49	R	R	2265	1
7.64	K	K	2132	1	7.44	R	R	3088	1



C243

## PROJECT MAGNET FLIGHT

GEOGRAPHIC LATITUDE = 31.40 N

GEOGRAPHIC LONGITUDE = 345.65 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
15.00	-13.27	88.43	127	10	10.30	21.97	419.13	4231	1
14.00	-13.98	99.60	132	10	10.29	R	R	2125	1
13.00	-10.70	114.57	198	9	10.28	-17.20	326.83	3122	1
12.00	.72	135.44	833	2	10.27	R	R	2484	1
11.90	2.55	138.12	282	8	10.26	-12.09	357.51	2965	1
11.80	4.53	140.99	285	8	10.25	R	R	1288	1
11.70	6.60	144.09	289	8	10.24	R	R	1268	1
11.60	8.9	147.48	293	8	10.23	R	R	1254	1
11.50	11.29	151.25	893	2	10.22	R	R	1242	1
11.40	13.74	155.49	303	8	10.21	R	R	1231	1
11.30	16.21	160.34	309	8	10.20	R	R	1222	1
11.20	18.57	166.00	316	8	10.19	R	R	1213	1
11.10	20.63	172.71	323	8	10.18	R	R	1206	1
11.00	22.01	180.82	1000	2	10.17	R	R	1198	1
10.90	22.00	190.60	344	8	10.16	R	R	1193	1
10.80	19.63	202.60	35	8	10.15	R	R	1187	1
10.75	16.90	209.47	1110	2	10.14	R	R	1181	1
10.70	12.63	217.00	379	8	10.13	R	R	1177	1
10.60	-3.10	236.10	412	8	10.12	R	R	1172	1
10.59	-5.50	238.70	1475	1	10.11	R	R	1167	1
10.50	-8.02	241.47	1494	1	10.10	R	R	1163	1
10.57	-10.72	244.53	1514	1	10.09	R	R	1159	1
10.50	-13.60	247.99	1530	1	10.08	R	R	1157	1
10.55	-16.64	251.90	1561	1	10.07	R	R	1154	1
10.54	-19.81	256.70	1589	1	10.06	R	R	1150	1
10.53	-22.99	262.43	1621	1	10.05	R	R	1148	1
10.52	-25.99	269.60	1659	1	10.04	R	R	1145	1
10.51	-28.33	278.98	1705	1	10.03	R	R	1143	1
10.50	-29.08	281.23	1514	2	10.02	R	R	1142	1
10.49	-26.15	307.30	1580	2	10.01	R	R	1140	1
10.40	-15.00	328.74	1700	2	10.00	R	R	1139	1
10.47	13.91	372.20	1965	2	9.99	R	R	1137	1
10.40	K	K	2100	2	9.98	R	R	1137	1
10.45	K	K	1620	2	9.97	R	R	1136	1
10.44	K	K	1520	2	9.96	R	R	1136	1
10.43	K	K	1494	2	9.95	R	R	1135	1
10.42	K	K	1491	2	9.94	R	R	1135	1
10.41	K	K	1501	2	9.93	R	R	1135	1
10.40	-12.11	400.50	2729	2	9.92	R	R	1135	1
10.39	K	K	3270	1	9.91	R	R	1135	1
10.30	K	K	2203	1	9.90	R	R	1135	1
10.37	9.84	304.21	3389	1	9.89	R	R	1136	1
10.36	-5.43	321.60	2450	1	9.88	R	R	1136	1
10.35	-3.83	204.91	2293	1	9.87	R	R	1137	1
10.34	-9.67	274.75	2260	1	9.86	R	R	1137	1
10.33	-14.75	281.10	2289	1	9.85	R	R	1138	1
10.32	-10.12	309.91	2421	1	9.84	R	R	1140	1
10.31	K	K	2647	1	9.83	R	R	1141	1

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## PROJECT MAGNET FLIGHT (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 31.40 N

GEOGRAPHIC LONGITUDE = 345.65 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
9.82	H	H	1143	1	9.34	R	R	1511	1
9.81	H	H	1144	1	9.33	R	R	1506	1
9.80	H	H	1147	1	9.32	R	R	1504	1
9.79	H	H	1150	1	9.31	R	R	1502	1
9.78	H	H	1152	1	9.30	R	R	1502	1
9.77	H	R	1156	1	9.29	R	R	1501	1
9.76	H	R	1161	1	9.28	R	R	1502	1
9.75	H	H	1167	1	9.27	R	R	1504	1
9.74	H	H	1175	1	9.26	R	R	1507	1
9.73	H	H	1190	1	9.25	R	R	1510	1
9.72	H	H	3854	1	9.24	R	R	1525	1
9.71	H	H	2808	1	9.23	R	R	1535	1
9.70	H	R	2671	1	9.22	R	R	1544	1
9.69	-17.49	344.91	3179	1	9.21	R	R	1554	1
9.68	-7.74	351.97	3181	1	9.20	R	R	1563	1
9.67	3.68	370.10	3670	1	9.19	R	R	1574	1
9.66	H	R	2442	1	9.18	R	R	1585	1
9.65	-13.34	374.61	2792	1	9.17	R	R	1597	1
9.64	-2.29	295.80	2375	1	9.16	R	R	1611	1
9.63	-1.58	273.11	2264	1	9.15	R	R	1628	1
9.62	-2.38	261.42	2200	1	9.14	R	R	1653	1
9.61	-2.14	255.41	2175	1	9.13	R	R	1744	1
9.60	-1.39	253.48	2159	1	9.12	R	R	1825	1
9.59	-0.70	255.18	2158	1	9.11	R	R	1878	1
9.58	-1.01	260.75	2171	1	9.10	R	R	1936	1
9.57	-3.54	271.25	2204	1	9.09	R	R	2784	1
9.56	-11.15	240.70	2274	1	9.08	6.48	409.68	4096	1
9.55	-19.71	349.90	2559	1	9.07	R	R	3668	1
9.54	9.99	427.68	3904	1	9.06	R	R	3342	1
9.53	H	H	3020	1	9.05	R	R	2840	1
9.52	H	H	2046	1	9.04	R	R	3250	1
9.51	H	H	1477	1	9.03	R	R	3277	1
9.50	H	H	1940	1	9.02	R	R	2432	1
9.49	H	H	1927	1	9.01	R	R	2437	1
9.48	H	H	1940	1	9.00	R	R	2468	1
9.47	H	H	4170	1	8.99	R	R	2528	1
9.46	H	H	2784	1	8.98	R	R	3784	1
9.45	H	H	2330	1	8.97	14.17	489.83	4169	1
9.44	H	H	3657	1	8.96	R	R	3530	1
9.43	-5.40	345.86	2825	1	8.95	R	R	4408	1
9.42	-15.92	352.15	2780	1	8.94	R	R	5160	1
9.41	.99	414.94	4164	1	8.93	R	R	5382	1
9.40	H	H	2387	1	8.92	R	R	5077	1
9.39	H	H	2310	1	8.91	R	R	3375	1
9.38	H	H	3142	1	8.90	R	R	4803	1
9.37	H	H	1541	1	8.89	R	R	4033	1
9.36	H	H	1 27	1	8.88	R	R	5864	1
9.35	H	H	1517	1	8.87	R	R	5981	1

PROJECT MAGNET FLIGHT (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 31.40 N

GEOGRAPHIC LONGITUDE = 345.65 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
8.80	K	K	4383	1	8.59	R	R	2514	1
8.85	K	K	5209	1	8.58	R	R	2496	1
8.84	K	K	6504	1	8.57	R	R	2483	1
8.83	13.49	813.07	7095	1	8.56	R	R	2471	1
8.82	K	K	5937	1	8.55	R	R	2460	1
8.81	K	K	6065	1	8.50	R	R	2439	1
8.80	K	K	5085	1	8.45	R	R	2828	1
8.79	K	K	4505	1	8.40	R	R	3128	1
8.78	K	K	4491	1	8.35	R	R	4411	1
8.77	6.17	551.62	5440	1	8.30	K	R	2476	1
8.76	-4.64	808.11	7477	1	8.25	R	R	2178	1
8.75	K	K	5916	1	8.20	R	R	6954	1
8.74	K	K	7326	1	8.15	R	R	3460	1
8.73	K	K	4774	1	8.10	R	R	3121	1
8.72	K	K	3684	1	8.05	R	R	2458	1
8.71	K	K	3790	1	8.00	R	R	3099	1
8.70	K	K	5411	1	7.95	R	R	1673	1
8.69	K	K	6151	1	7.90	R	R	1614	1
8.68	K	K	4795	1	7.85	R	R	1566	1
8.67	K	K	3574	1	7.80	R	R	1526	1
8.66	K	K	3406	1	7.75	R	R	1493	1
8.65	K	K	3816	1	7.70	R	R	1465	1
8.64	K	R	4840	1	7.65	R	R	1444	1
8.63	K	K	2887	1	7.60	R	R	1427	1
8.62	K	K	2601	1	7.55	R	R	1412	1
8.61	K	K	2561	1	7.50	R	R	1400	1
8.60	K	K	2534	1	7.10	R	R	571	5

## PROJECT MAGNET FLIGHT

GEOGRAPHIC LATITUDE = 30.47 N

GEOGRAPHIC LONGITUDE = 345.38 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
15.00	-13.10	91.40	120	10	10.48	R	R	1174	1
14.00	-13.28	103.65	134	10	10.47	R	R	1170	1
13.00	-8.64	120.17	202	9	10.46	R	R	1165	1
12.00	5.94	144.64	660	2	10.45	R	R	1161	1
11.50	17.97	107.00	951	2	10.44	R	R	1158	1
11.00	10.79	221.10	1160	2	10.43	R	R	1154	1
10.90	-8.10	243.42	425	8	10.42	R	R	1151	1
10.89	-11.02	246.71	1529	1	10.41	R	R	1148	1
10.80	-14.00	250.40	1555	1	10.40	R	R	1146	1
10.87	-17.35	254.85	1580	1	10.39	R	R	1144	1
10.80	-20.70	260.10	1611	1	10.38	R	R	1143	1
10.85	-24.05	266.65	1646	1	10.37	R	R	1142	1
10.84	-27.00	275.00	1692	1	10.36	R	R	1140	1
10.85	-28.94	286.25	1747	1	10.35	R	R	1140	1
10.82	-28.22	301.27	1822	1	10.34	R	R	1140	1
10.81	-21.05	321.34	1935	1	10.33	R	R	1140	1
10.80	1.75	352.55	605	8	10.32	R	R	1140	1
10.79	K	K	2299	1	10.31	R	R	1138	1
10.70	K	K	1919	1	10.30	R	R	1141	1
10.77	K	K	1787	1	10.29	R	R	1142	1
10.70	K	K	1740	1	10.28	R	R	1142	1
10.75	K	K	1755	1	10.27	R	R	1143	1
10.74	K	K	1775	1	10.26	R	R	1145	1
10.75	-8.24	328.25	2631	1	10.25	R	R	1141	1
10.72	2.77	376.90	3715	1	10.24	R	R	1147	1
10.71	K	K	2254	1	10.23	R	R	1149	1
10.70	-12.27	349.00	2895	1	10.22	R	R	1151	1
10.69	-2.54	240.35	2370	1	10.21	R	R	1153	1
10.60	-7.90	279.94	2294	1	10.20	R	R	1148	1
10.67	-15.87	241.50	2310	1	10.19	R	R	1158	1
10.60	-12.32	306.44	2422	1	10.18	R	R	1162	1
10.65	K	K	2732	1	10.17	R	R	1166	1
10.64	K	K	2237	1	10.16	R	R	1172	1
10.65	K	K	2124	1	10.15	R	R	1162	1
10.62	-15.52	352.14	3261	1	10.14	R	R	1190	1
10.61	K	K	1306	1	10.13	24.57	450.39	4455	1
10.61	K	K	1280	1	10.12	-17.40	371.21	3357	1
10.59	K	R	1264	1	10.11	-10.85	335.62	3140	1
10.50	K	K	1255	1	10.10	4.24	370.96	3973	1
10.57	K	K	1245	1	10.09	-11.20	305.92	3051	1
10.50	K	K	1232	1	10.08	R	R	2912	1
10.55	K	K	1222	1	10.07	R	R	2448	1
10.54	K	K	1214	1	10.06	20.98	484.10	3581	1
10.55	K	K	1205	1	10.05	.19	295.90	2404	1
10.52	K	K	1190	1	10.04	-2.10	270.29	2277	1
10.51	K	K	1191	1	10.03	-2.97	257.90	2214	1
10.50	K	K	1185	1	10.02	-2.51	252.10	2184	1
10.49	K	K	1174	1	10.01	-1.09	251.19	2173	1

## PROJECT MAGNET FLIGHT (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 30.47 N

GEOGRAPHIC LONGITUDE = 345.38 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
10.00	-0.22	254.84	1861	2	9.52	R	R	3991	1
9.99	-1.01	263.79	2211	1	9.51	R	R	2690	1
9.98	-6.49	280.92	2280	1	9.50	R	R	2663	1
9.97	-21.48	325.08	2477	1	9.49	R	R	3963	1
9.96	K	R	2766	1	9.48	3.82	398.16	3586	1
9.95	K	K	2149	1	9.47	R	R	3680	1
9.94	K	K	2015	1	9.46	R	R	2435	1
9.93	K	K	1957	1	9.45	R	R	2418	1
9.92	K	K	1936	1	9.44	R	R	2441	1
9.91	K	K	1950	1	9.43	R	R	2516	1
9.90	K	K	3324	1	9.42	R	R	4127	1
9.89	K	K	2369	1	9.41	R	R	3470	1
9.88	K	K	2433	1	9.40	R	R	3162	1
9.87	-7.46	359.21	2834	1	9.39	16.35	443.70	3607	1
9.86	-17.54	329.75	2813	1	9.38	R	R	3346	1
9.85	K	K	4551	1	9.37	R	R	2751	1
9.84	K	K	2341	1	9.36	2.72	538.74	3325	1
9.83	K	K	1565	1	9.35	1.49	413.59	2627	1
9.82	K	K	1543	1	9.34	-3.75	392.76	2530	1
9.81	K	K	1530	1	9.33	-5.07	383.58	2486	1
9.80	K	K	1522	1	9.32	-5.22	380.44	2472	1
9.79	K	K	1531	1	9.31	-4.66	382.04	2477	1
9.78	K	K	1535	1	9.30	-3.15	384.97	2508	1
9.77	K	K	1538	1	9.29	.63	404.69	2578	1
9.76	K	K	1542	1	9.28	13.20	451.19	2783	1
9.75	K	K	1547	1	9.27	R	R	2757	1
9.74	K	K	1553	1	9.26	R	R	3470	1
9.73	K	K	1556	1	9.25	4.85	525.30	4006	1
9.72	K	K	1567	1	9.24	R	R	3398	1
9.71	K	K	1573	1	9.23	R	R	3198	1
9.70	K	K	1583	1	9.22	R	R	3140	1
9.69	K	K	1593	1	9.21	R	R	3164	1
9.68	K	K	1605	1	9.20	R	R	3282	1
9.67	K	K	1618	1	9.19	R	R	4352	1
9.66	K	K	1633	1	9.18	R	R	5594	1
9.65	K	K	1651	1	9.17	R	R	3460	1
9.64	K	R	1675	1	9.16	R	R	3075	1
9.63	K	K	1920	1	9.15	R	R	3727	1
9.62	K	K	2031	1	9.14	R	R	2814	1
9.61	K	K	3706	1	9.13	R	R	2717	1
9.60	K	K	2987	1	9.12	R	R	2660	1
9.59	K	K	3384	1	9.11	R	R	2624	1
9.58	K	K	2488	1	9.10	R	R	2597	1
9.57	K	K	2525	1	9.09	R	R	2574	1
9.56	12.40	413.17	3883	1	9.08	R	K	2554	1
9.55	K	K	5476	1	9.07	R	R	2535	1
9.54	-10.82	351.89	2945	1	9.06	R	R	2519	1
9.53	-0.60	372.22	3051	1	9.05	R	R	2509	1

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PROJECT MAGNET FLIGHT (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 30.47 N

GEOGRAPHIC LONGITUDE = 345.38 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
9.04	K	K	2503	1	8.54	R	R	1459	1
9.03	K	K	2500	1	8.49	R	R	1443	1
9.02	K	K	2523	1	8.44	R	R	1429	1
9.01	K	K	2563	1	8.41	R	R	483	6
9.00	K	K	1435	7	8.39	R	R	1418	1
8.99	K	K	4542	1	8.34	R	R	1409	1
8.94	K	K	4189	1	8.29	R	R	1402	1
8.89	K	K	2280	1	8.24	R	K	1395	1
8.84	K	K	3220	1	8.19	R	R	1389	1
8.79	K	K	3812	1	8.14	R	R	1384	1
8.74	K	K	1773	1	8.09	R	R	704	1
8.69	K	K	1637	1	8.04	R	R	698	1
8.64	K	K	1517	1	7.99	R	R	693	1
8.59	K	K	1482	1	7.42	R	R	580	5

## PROJECT MAGNET FLIGHT

GEOGRAPHIC LATITUDE = 29.52 N

GEOGRAPHIC LONGITUDE = 347.12 E

P	ASYMPTOTIC LAT	LONG	STEP	SS	P	ASYMPTOTIC LAT	LONG	STEP	SS
15.00	-12.94	98.25	131	10	11.10	R	R	2195	1
14.00	-11.88	112.00	137	10	11.09	R	R	1324	1
13.00	-4.58	151.27	209	9	11.08	R	R	1300	1
12.90	-3.27	153.67	212	9	11.07	R	R	1282	1
12.80	-1.82	156.14	214	9	11.06	R	R	1267	1
12.70	-.25	158.85	217	9	11.05	R	R	1253	1
12.60	1.50	141.69	220	9	11.04	R	R	1241	1
12.50	3.41	144.72	222	9	11.03	R	R	1230	1
12.40	5.47	148.05	226	9	11.02	R	R	1220	1
12.30	7.70	151.65	229	9	11.01	R	R	1211	1
12.20	10.07	155.64	235	9	11.00	R	R	1194	1
12.10	12.55	160.14	238	9	10.99	R	R	1188	1
12.00	15.04	165.45	936	2	10.98	R	R	1181	1
11.90	17.53	171.59	314	8	10.97	R	R	1176	1
11.80	19.63	179.02	328	8	10.96	R	R	1176	1
11.70	20.92	188.15	334	8	10.95	R	R	1166	1
11.60	20.47	199.52	355	8	10.94	R	R	1162	1
11.50	16.47	213.72	1125	2	10.93	R	R	1158	1
11.40	5.00	251.97	401	8	10.92	R	R	1155	1
11.39	3.24	254.17	1435	1	10.91	R	R	1154	1
11.30	1.25	256.49	1448	1	10.90	R	R	1149	1
11.37	-.90	258.90	1465	1	10.89	R	R	1148	1
11.36	-3.27	241.61	1482	1	10.88	R	R	1146	1
11.35	-5.80	244.49	1502	1	10.87	R	R	1145	1
11.34	-8.67	247.67	1524	1	10.86	R	R	1143	1
11.33	-11.72	251.20	1547	1	10.85	R	R	1143	1
11.32	-15.00	255.34	1574	1	10.84	R	R	1143	1
11.31	-18.44	260.31	1605	1	10.83	R	R	1142	1
11.30	-22.04	266.30	1641	1	10.82	R	R	1143	1
11.29	-25.57	274.04	1685	1	10.81	R	R	1141	1
11.28	-28.39	284.30	1730	1	10.80	R	R	1145	1
11.27	-34.21	298.40	1807	1	10.79	R	R	1145	1
11.26	-44.88	317.60	1910	1	10.78	R	R	1147	1
11.25	-7.20	344.94	2094	1	10.77	R	R	1149	1
11.24	N	N	2522	1	10.76	R	R	1146	1
11.23	N	N	1937	1	10.75	R	R	1152	1
11.22	N	N	1786	1	10.74	R	R	1154	1
11.21	N	N	1745	1	10.73	R	R	1155	1
11.20	N	N	1771	1	10.72	R	R	1154	1
11.19	N	N	1877	1	10.71	R	R	1154	1
11.18	-20.64	344.50	2441	1	10.70	R	R	1162	1
11.17	N	N	2280	1	10.69	R	R	1165	1
11.16	N	N	3413	1	10.68	R	R	1169	1
11.15	-3.17	316.18	2474	1	10.67	R	R	1174	1
11.14	-7.34	287.90	2355	1	10.66	R	R	1180	1
11.13	-13.90	287.70	2355	1	10.65	R	R	1188	1
11.12	-11.00	315.20	2481	1	10.64	R	R	1202	1
11.11	N	N	2667	1	10.63	R	R	2978	1

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## PROJECT MAGNET FLIGHT (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 29.52 N

GEOGRAPHIC LONGITUDE = 347.12 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
10.62	K	K	2461	1	10.14	R	R	2266	1
10.61	-1.22	326.99	2595	1	10.13	R	R	3690	1
10.60	-1.77	278.50	2538	1	10.12	-4.78	373.40	2550	1
10.59	-3.92	260.36	2246	1	10.11	-4.42	326.92	2291	1
10.58	-3.20	252.25	2207	1	10.10	-2.98	306.69	2188	1
10.57	-1.38	250.76	2193	1	10.09	-3.29	293.90	2125	1
10.56	.15	255.42	2206	1	10.08	-4.07	284.75	2080	1
10.55	-.77	267.55	2252	1	10.07	-4.89	277.81	2047	1
10.54	-10.35	293.45	2372	1	10.06	-5.63	272.34	2022	1
10.53	K	K	2612	1	10.05	-6.23	267.95	2001	1
10.52	K	K	2175	1	10.04	-6.72	264.42	1985	1
10.51	K	K	2011	1	10.03	-7.10	261.57	1974	1
10.50	K	K	1958	1	10.02	-7.41	259.31	1964	1
10.49	K	K	2050	1	10.01	-7.66	257.55	1956	1
10.48	K	K	1969	1	10.00	-7.87	256.26	1951	1
10.47	K	K	1949	1	9.99	-8.06	255.39	1947	1
10.46	K	K	1986	1	9.98	-8.25	254.91	1945	1
10.45	K	K	3329	1	9.97	-8.45	254.82	1945	1
10.44	K	K	2471	1	9.96	-8.69	255.12	1947	1
10.43	-14.87	317.52	2786	1	9.95	-8.96	255.80	1951	1
10.42	-5.17	377.15	3140	1	9.94	-9.29	256.88	1956	1
10.41	K	K	2465	1	9.93	-9.68	258.39	1963	1
10.40	K	K	1605	1	9.92	-10.14	260.37	1972	1
10.39	K	K	1586	1	9.91	-10.67	262.88	1983	1
10.38	K	R	1579	1	9.90	-11.27	266.02	1998	1
10.37	K	K	1576	1	9.89	-11.93	269.91	2016	1
10.36	K	K	1576	1	9.88	-12.62	274.74	2038	1
10.35	K	K	1577	1	9.87	-13.25	280.83	2065	1
10.34	K	K	1581	1	9.86	-13.70	288.66	2101	1
10.33	K	K	1586	1	9.85	-13.61	299.14	2150	1
10.32	K	K	1593	1	9.84	-12.23	314.12	2218	1
10.31	K	K	1603	1	9.83	-7.41	339.01	2339	1
10.30	K	K	1614	1	9.82	9.72	427.43	2791	1
10.29	K	K	1627	1	9.81	R	R	3358	1
10.28	K	K	1645	1	9.80	-5.16	475.35	4949	1
10.27	K	R	1662	1	9.79	R	R	2904	1
10.26	K	R	1686	1	9.78	R	R	3282	1
10.25	K	K	1715	1	9.77	R	R	3297	1
10.24	8.50	369.59	3546	1	9.76	R	R	3284	1
10.23	-1.12	352.55	3670	1	9.75	R	R	3143	1
10.22	K	K	2571	1	9.74	14.93	449.43	4484	1
10.21	K	K	3336	1	9.73	R	R	2664	1
10.20	-13.50	326.95	2879	1	9.72	R	R	2565	1
10.19	K	K	3421	1	9.71	R	R	2542	1
10.18	K	K	2696	1	9.70	R	R	2187	2
10.17	-2.06	352.52	3455	1	9.69	R	R	3486	1
10.16	K	K	2330	1	9.68	R	R	5191	1
10.15	K	K	2200	1	9.67	R	R	3816	1



PROJECT MAGNET FLIGHT (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE - 29.52 N

GEOGRAPHIC LONGITUDE = 347.12 E

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
9.60	K	K	3521	1	9.30	R	R	701	1
9.65	K	K	3311	1	9.29	R	R	700	1
9.64	K	K	2446	1	9.28	R	R	699	1
9.63	K	K	2362	1	9.27	R	R	697	1
9.62	K	K	2333	1	9.26	P	R	696	1
9.61	K	K	771	1	9.25	R	R	695	1
9.60	K	K	643	2	9.24	R	R	694	1
9.59	K	K	761	1	9.23	R	R	693	1
9.58	K	K	757	1	9.22	R	R	692	1
9.57	K	K	753	1	9.21	R	R	690	1
9.56	K	K	751	1	9.20	R	R	689	1
9.55	K	K	747	1	9.19	R	R	688	1
9.54	K	K	745	1	9.18	R	R	687	1
9.53	K	K	742	1	9.17	R	R	686	1
9.52	K	K	740	1	9.16	R	R	684	1
9.51	K	K	738	1	9.15	R	R	683	1
9.50	K	K	735	1	9.10	R	R	678	1
9.49	K	K	733	1	9.05	R	R	672	1
9.48	K	K	731	1	9.00	R	R	668	1
9.47	K	K	729	1	8.95	R	R	663	1
9.46	K	K	727	1	8.90	R	R	658	1
9.45	K	K	725	1	8.85	R	R	654	1
9.44	K	K	723	1	8.80	R	R	650	1
9.43	K	K	722	1	8.75	R	R	646	1
9.42	K	K	720	1	8.70	R	R	643	1
9.41	K	K	718	1	8.65	R	R	639	1
9.40	K	K	717	1	8.60	R	R	635	1
9.39	K	K	715	1	8.55	R	R	632	1
9.38	K	K	713	1	8.50	R	R	629	1
9.37	K	K	711	1	8.45	R	R	626	1
9.36	K	K	711	1	8.40	R	R	623	1
9.35	K	K	709	1	8.35	R	R	620	1
9.34	K	K	707	1	8.30	R	R	618	1
9.33	K	K	706	1	8.25	R	R	615	1
9.32	K	K	704	1	8.20	R	R	612	1
9.31	K	K	703	1	8.15	R	R	610	1

## AHMEDABAD, INDIA

GEOGRAPHIC LATITUDE = 23.01 N

GEOGRAPHIC LONGITUDE = 72.61 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
20.00	-10.20	188.89	132	10	15.89	R	R	1271	1
19.00	-10.36	201.50	138	10	15.88	R	R	1251	1
18.00	-8.21	219.25	149	10	15.87	R	R	1233	1
17.00	-1.35	248.64	169	10	15.86	R	R	1216	1
16.90	-0.36	253.05	173	10	15.85	R	R	1201	1
16.80	0.63	257.95	176	10	15.84	R	R	1187	1
16.70	1.87	263.52	181	10	15.83	R	R	1174	1
16.60	2.37	269.95	186	10	15.82	R	R	1162	1
16.50	2.85	277.55	193	10	15.81	R	R	1150	1
16.40	2.70	286.79	201	10	15.80	R	R	1140	1
16.30	1.30	298.53	211	10	15.79	R	R	1129	1
16.20	-2.61	314.70	226	10	15.74	R	R	1084	1
16.10	-11.25	341.67	252	10	15.69	R	R	1047	1
16.09	-12.39	345.76	1609	1	15.64	R	R	1015	1
16.08	-13.52	350.36	1636	1	15.59	R	R	986	1
16.07	-14.57	355.58	1666	1	15.54	R	R	959	1
16.06	-15.44	361.59	1701	1	15.49	R	R	935	1
16.05	-15.93	368.63	1742	1	15.44	R	R	911	1
16.04	-15.68	377.7	1791	1	15.39	R	R	890	1
16.03	-14.05	387.17	1852	1	15.34	R	R	869	1
16.02	-9.72	399.83	1932	1	15.29	R	R	849	1
16.01	0.18	416.63	2049	1	15.24	R	R	831	1
16.00	21.82	447.65	2267	1	15.19	R	R	814	1
15.99	R	R	2378	1	15.14	R	R	798	1
15.98	R	R	1787	1	15.09	R	R	783	1
15.97	R	R	1639	1	15.04	R	R	769	1
15.96	R	R	1543	1	15.00	R	R	115	10
15.95	R	R	1476	1	14.99	R	R	756	1
15.94	R	R	1424	1	14.94	R	R	744	1
15.93	R	R	1382	1	14.89	R	R	732	1
15.92	R	R	1348	1	14.84	R	R	721	1
15.91	R	R	1318	1	14.79	R	R	710	1
15.90	R	R	1293	1	14.74	R	R	700	1

## APATITY, U.S.S.R.

GEOGRAPHIC LATITUDE = 67.55 N

GEOGRAPHIC LONGITUDE = 33.33 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	46.84	71.11	103	10	0.76	7.84	192.15	1317	1
19.00	45.75	70.96	103	10	0.75	9.23	197.12	1339	1
18.00	44.62	70.73	104	10	0.74	11.13	204.16	1369	1
17.00	43.46	70.41	104	10	0.73	12.99	212.85	1404	1
16.00	42.30	70.01	104	10	0.72	13.73	222.04	1443	1
15.00	41.16	69.52	104	10	0.71	13.03	230.48	1479	1
14.00	40.08	68.97	104	10	0.70	10.68	239.71	1520	1
13.00	39.10	68.43	148	9	0.69	5.24	254.27	1582	1
12.00	38.29	67.94	148	9	0.68	-13.56	284.44	1714	1
11.00	37.68	67.69	193	8	0.67	-24.43	625.11	5580	1
10.00	37.24	67.94	236	7	0.66	18.40	430.40	3602	1
9.00	36.74	69.04	236	7	0.65	19.46	438.28	3419	1
8.00	35.58	71.30	279	6	0.64	-6.76	571.47	6969	1
7.00	32.68	74.30	336	5	0.63	-11.18	689.82	7347	1
6.00	27.54	76.30	339	5	0.62	4.75	532.97	4762	1
5.00	23.01	75.97	470	4	0.61	14.34	460.20	4135	1
4.00	20.85	79.15	544	3	0.60	11.43	494.61	3651	1
3.00	12.18	83.26	562	3	0.59	F	F	15001	1
2.00	2.42	94.29	662	2	0.58	R	R	2958	1
1.90	-0.07	96.63	670	2	0.57	F	F	15001	1
1.80	-1.89	98.18	680	2	0.56	F	F	15001	1
1.70	-2.27	99.75	691	2	0.55	F	F	15001	1
1.60	-3.90	103.18	704	2	0.54	F	F	15001	1
1.50	-6.61	106.87	852	1	0.53	F	F	15001	1
1.40	-7.08	109.67	872	1	0.52	R	R	3057	1
1.30	-9.48	115.78	982	1	0.51	F	F	15001	1
1.20	-9.92	120.66	936	1	0.50	F	F	15001	1
1.10	-11.26	129.91	981	1	0.49	F	F	15001	1
1.00	-10.54	140.22	1038	1	0.48	F	F	15001	1
0.91	-7.67	152.37	1107	1	0.47	F	F	15001	1
0.90	-7.18	154.68	1118	1	0.46	F	F	15001	1
0.89	-6.80	157.86	1129	1	0.45	F	F	15001	1
0.88	-5.62	159.36	1141	1	0.44	F	F	15001	1
0.87	-4.67	161.36	1153	1	0.43	F	F	15001	1
0.86	-3.88	163.82	1163	1	0.42	F	F	15001	1
0.85	-3.07	164.86	1174	1	0.41	F	F	15001	1
0.84	-2.44	166.27	1184	1	0.40	F	F	15001	1
0.83	-1.74	168.88	1197	1	0.39	F	F	15001	1
0.82	-0.77	171.89	1211	1	0.38	F	F	15001	1
0.81	0.62	175.20	1227	1	0.37	F	F	15001	1
0.80	2.39	179.04	1246	1	0.24	F	F	15001	1
0.79	4.20	182.67	1264	1	0.19	R	R	6254	1
0.78	5.71	186.80	1282	1	0.14	R	R	7732	1
0.77	6.82	188.65	1299	1	0.09	R	R	11952	1
					0.04	F	F	15001	1

## BUENOS AIRES, ARGENTINA

GEOGRAPHIC LATITUDE = 34.58 S

GEOGRAPHIC LONGITUDE = 301.50 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	0.70	8.35	112	10	10.45	R	R	1264	1
19.00	3.81	11.62	113	10	10.44	R	R	1272	1
18.00	7.31	15.45	114	10	10.43	R	R	1280	1
17.00	11.26	20.13	117	10	10.42	R	R	1291	1
16.00	15.64	26.00	119	10	10.41	R	R	1303	1
15.00	20.35	33.88	123	10	10.40	R	R	1317	1
14.00	24.84	45.09	128	10	10.39	R	R	1331	1
13.00	27.30	62.13	192	9	10.38	R	R	1336	1
12.00	21.52	88.76	211	9	10.37	R	R	1323	1
11.00	-10.96	143.40	1219	1	10.36	R	R	1324	1
10.99	-11.40	144.72	1226	1	10.35	R	R	1346	1
10.98	-11.82	146.09	1233	1	10.34	-1.79	219.46	2458	1
10.90	-14.12	159.52	368	8	10.33	1.88	203.25	2377	1
10.80	-9.43	186.28	406	8	10.32	-4.08	205.34	2375	1
10.79	-7.91	189.99	1458	1	10.31	-10.63	233.87	2479	1
10.78	-6.08	194.03	1481	1	10.30	R	R	3803	1
10.77	-3.90	198.46	1507	1	10.29	R	R	2179	1
10.76	-1.33	203.38	1535	1	10.28	R	R	3118	1
10.75	1.64	209.01	1569	1	10.27	-1.12	370.60	4041	1
10.74	5.01	215.62	1607	1	10.26	R	R	3085	1
10.73	8.63	223.75	1654	1	10.25	R	R	1763	1
10.72	11.99	234.31	1713	1	10.24	R	R	1742	1
10.71	13.55	248.98	1794	1	10.23	R	R	1738	1
10.70	8.25	270.66	1923	1	10.22	R	R	1745	1
10.69	-21.76	312.96	2225	1	10.21	R	R	1765	1
10.68	-15.50	304.64	2883	1	10.20	R	R	1799	1
10.67	R	R	1850	1	10.19	R	R	1861	1
10.66	R	R	1827	1	10.18	R	R	2624	1
10.65	-12.80	392.53	3326	1	10.17	-10.69	324.92	3141	1
10.64	R	R	2938	1	10.16	-6.83	378.22	3726	1
10.63	-8.57	233.68	2278	1	10.15	R	R	3299	1
10.62	4.90	234.80	3305	1	10.14	-17.48	265.65	2297	1
10.61	6.67	378.87	3141	1	10.13	-6.91	231.83	2133	1
10.60	R	R	3187	1	10.12	0.07	215.31	2054	1
10.59	R	R	1389	1	10.11	3.79	204.33	2004	1
10.58	R	R	1382	1	10.10	5.55	196.33	1969	1
10.57	R	R	1328	1	10.09	6.16	190.47	1945	1
10.56	R	R	1310	1	10.08	6.09	186.06	1927	1
10.55	R	R	1296	1	10.07	5.63	183.04	1917	1
10.54	R	R	1284	1	10.06	4.97	181.18	1910	1
10.53	R	R	1274	1	10.05	4.24	180.38	1907	1
10.52	R	R	1267	1	10.04	3.54	180.58	1909	1
10.51	R	R	1261	1	10.03	2.97	181.80	1915	1
10.50	R	R	1257	1	10.02	2.62	184.08	1926	1
10.49	R	R	1255	1	10.01	2.60	187.54	1941	1
10.48	R	R	1255	1	10.00	3.07	192.40	1964	1
10.47	R	R	1256	1	9.99	4.15	199.04	1994	1
10.46	R	R	1260	1	9.98	5.91	208.21	2037	1

BUENOS AIRES, ARGENTINA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 34.58 S

GEOGRAPHIC LONGITUDE = 301.50 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
9.97	7.94	221.59	2100	1	9.73	R	R	785	1
9.96	7.48	243.48	2206	1	9.72	R	R	781	1
9.95	-14.15	244.25	2489	1	9.71	R	R	779	1
9.94	R	R	2339	1	9.66	R	R	766	1
9.93	R	R	2195	1	9.61	R	R	754	1
9.92	3.66	440.34	4026	1	9.56	R	R	742	1
9.91	R	R	863	1	9.51	R	R	732	1
9.90	R	R	854	1	9.46	R	R	722	1
9.89	R	R	848	1	9.41	R	R	713	1
9.88	R	R	842	1	9.36	R	R	705	1
9.87	R	R	837	1	9.31	R	R	697	1
9.86	R	R	832	1	9.26	R	R	689	1
9.85	R	R	827	1	9.21	R	R	683	1
9.84	R	R	823	1	9.16	R	R	676	1
9.83	R	R	819	1	9.11	R	R	670	1
9.82	R	R	815	1	9.06	R	R	664	1
9.81	R	R	811	1	9.01	R	R	658	1
9.80	R	R	808	1	9.00	R	R	195	7
9.79	R	R	804	1	8.96	R	R	653	1
9.78	R	R	801	1	8.91	R	R	648	1
9.77	R	R	797	1	8.86	R	R	643	1
9.76	R	R	794	1	8.81	R	R	638	1
9.75	R	R	791	1	8.76	R	R	633	1
9.74	R	R	788	1	8.71	R	R	629	1
					8.66	R	R	625	1

C258

## CALGARY, CANADA

GEOGRAPHIC LATITUDE = 51.08 N

GEOGRAPHIC LONGITUDE = 242.91 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	20.17	-90.24	104	10	1.26	23.98	83.40	1231	1
19.00	18.68	-90.46	105	10	1.25	20.35	93.58	1259	1
18.00	17.13	-90.77	105	10	1.24	14.52	105.17	1295	1
17.00	15.53	-91.17	105	10	1.23	5.59	119.94	1342	1
16.00	13.91	-91.65	106	10	1.22	-7.35	145.76	1423	1
15.00	12.30	-92.27	106	10	1.21	21.17	483.96	4430	1
14.00	10.75	-92.87	106	10	1.20	-16.83	242.87	2731	1
13.00	9.33	-93.55	150	9	1.19	4.64	293.96	1933	1
12.00	8.12	-94.15	151	9	1.18	-13.29	649.64	6207	1
11.00	7.18	-94.56	197	8	1.17	13.62	787.88	7199	1
10.00	6.49	-94.51	240	7	1.16	R	R	1784	1
9.00	5.81	-93.64	240	7	1.15	-0.64	1053.38	10855	1
8.00	4.36	-91.61	284	6	1.14	R	R	5445	1
7.00	0.73	-88.57	342	5	1.13	R	F	15001	1
6.00	-6.01	-85.90	347	5	1.12	-15.09	333.53	2998	1
5.00	-12.49	-84.96	484	4	1.11	5.44	434.89	4271	1
4.00	-15.59	-80.21	562	3	1.10	-4.92	1298.08	11148	1
3.00	-26.33	-69.36	588	3	1.09	0.92	587.00	5997	1
2.90	-26.47	-68.09	649	2	1.08	17.65	441.58	5319	1
2.80	-26.77	-66.30	652	2	1.07	F	F	15001	1
2.70	-27.54	-63.79	656	2	1.06	F	F	15001	1
2.60	-28.89	-60.56	661	2	1.05	-6.09	995.30	9409	1
2.50	-30.53	-56.81	667	2	1.04	R	R	2519	1
2.40	-31.85	-53.01	675	2	1.03	F	F	15001	1
2.30	-32.26	-49.76	683	2	1.02	R	R	10538	1
2.20	-31.84	-47.03	691	2	1.01	F	F	15001	1
2.10	-31.32	-43.46	699	2	1.00	F	F	15001	1
2.00	-31.17	-37.37	710	2	0.99	R	R	14460	1
1.90	-30.35	-29.25	725	2	0.98	R	R	3489	1
1.80	-27.67	-22.55	742	2	0.97	R	R	7688	1
1.70	-24.43	-17.86	759	2	0.96	F	F	15001	1
1.60	-19.37	-7.30	786	2	0.95	F	F	15001	1
1.50	-2.67	4.73	974	1	0.94	R	R	2113	1
1.41	0.92	14.06	1014	1	0.93	R	R	3963	1
1.40	1.75	15.86	1022	1	0.92	F	F	15001	1
1.39	3.16	17.32	1024	1	0.91	R	R	9379	1
1.38	4.76	19.24	1036	1	0.90	R	R	8577	1
1.37	6.60	21.57	1048	1	0.89	R	R	13156	1
1.36	8.70	24.15	1055	1	0.88	F	F	15001	1
1.35	11.04	27.09	1065	1	0.87	F	F	15001	1
1.34	13.61	30.49	1073	1	0.86	F	F	15001	1
1.33	16.34	34.39	1091	1	0.85	F	F	15001	1
1.32	19.12	38.50	1107	1	0.84	R	R	14002	1
1.31	21.76	44.22	1123	1	0.82	F	F	15001	1
1.30	24.04	50.34	1141	1	0.79	F	F	15001	1
1.29	25.69	57.37	1161	1	0.77	F	F	15001	1
1.28	26.40	65.29	1182	1	0.74	F	F	15001	1
1.27	25.91	73.98	1205	1	0.72	F	F	15001	1

CALGARY, CANADA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 51.08 N GEOGRAPHIC LONGITUDE = 245.91 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
0.69	F	F	15001	1	0.47	R	R	4622	1
0.67	F	F	15001	1	0.44	R	R	5082	1
0.64	R	R	3212	1	0.42	F	F	15001	1
0.62	R	R	11811	1	0.37	R	R	2989	1
0.59	F	F	15001	1	0.32	R	R	3276	1
0.57	F	F	15001	1	0.27	R	R	3808	1
0.54	F	F	15001	1	0.22	R	R	4579	1
0.52	F	F	15001	1	0.17	R	R	5953	1
0.49	F	F	15001	1	0.12	R	R	8218	1
					0.07	R	R	14004	1

C258

## CAMBRIDGE, UNITED STATES

GEOGRAPHIC LATITUDE = 41.38 N

GEOGRAPHIC LONGITUDE = 288.88 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	15.29	-29.08	106	10	1.79	15.66	451.29	4880	1
19.00	13.37	-28.47	106	10	1.78	-11.44	283.68	2610	1
18.00	11.32	-27.89	107	10	1.77	12.34	467.42	3970	1
17.00	9.12	-27.39	107	10	1.76	-7.85	737.95	6944	1
16.00	6.81	-26.94	108	10	1.75	19.18	491.20	3526	1
15.00	4.41	-26.60	108	10	1.74	6.10	200.68	1856	1
14.00	1.97	-26.35	109	10	1.73	8.34	814.27	7512	1
13.00	-0.41	-26.21	154	9	1.72	-14.21	360.70	2935	1
12.00	-2.61	-26.16	155	9	1.71	-8.14	267.52	2250	1
11.00	-4.44	-26.17	203	6	1.70	-0.73	550.95	5756	1
10.00	-5.71	-26.09	247	7	1.69	-9.67	658.55	6524	1
9.00	-6.31	-25.51	248	7	1.68	-7.80	732.32	9088	1
8.00	-6.54	-23.68	293	6	1.67	R	R	1938	1
7.00	-7.68	-19.38	352	5	1.66	R	R	1825	1
6.00	-12.21	-11.66	358	5	1.65	F	F	15001	1
5.00	-19.44	-1.70	506	4	1.64	12.47	797.34	6210	1
4.00	-19.91	6.95	596	3	1.63	14.07	1154.96	11122	1
3.00	-15.59	37.25	641	3	1.62	F	F	15001	1
2.90	-13.55	40.21	713	2	1.61	F	F	15001	1
2.80	-11.35	42.75	720	2	1.60	F	F	15001	1
2.70	-9.14	45.46	727	2	1.59	F	F	15001	1
2.60	-6.73	49.14	735	2	1.58	F	F	15001	1
2.50	-3.49	54.97	746	2	1.57	F	F	15001	1
2.40	1.72	63.21	764	2	1.56	R	R	2112	1
2.30	10.16	74.46	792	2	1.55	F	F	15001	1
2.20	20.79	89.56	831	2	1.54	R	R	2897	1
2.10	27.72	110.84	879	2	1.53	F	F	15001	1
2.00	22.79	141.20	1123	1	1.52	F	F	15001	1
1.99	20.84	145.51	1138	1	1.51	F	F	15001	1
1.98	18.42	150.25	1184	1	1.50	R	R	1842	1
1.97	15.24	155.58	1167	1	1.49	R	R	1947	1
1.96	11.89	161.67	1187	1	1.48	R	R	11685	1
1.95	5.60	169.01	1213	1	1.47	F	F	15001	1
1.94	-1.71	178.52	1246	1	1.46	F	F	15001	1
1.93	-11.28	192.99	1299	1	1.45	R	R	7660	1
1.92	-20.88	223.84	1391	1	1.44	F	F	15001	1
1.91	-28.84	275.70	1411	1	1.43	R	R	3364	1
1.90	23.64	411.24	3186	1	1.42	F	F	15001	1
1.89	3.39	342.64	2725	1	1.37	F	F	15001	1
1.88	-7.61	215.29	1759	1	1.32	R	R	7014	1
1.87	7.32	476.24	4388	1	1.27	F	F	15001	1
1.86	5.43	526.56	5191	1	1.22	R	R	10260	1
1.85	20.74	488.71	3098	1	1.17	F	F	15001	1
1.84	7.82	243.67	2674	1	1.12	F	F	15001	1
1.83	R	R	1481	1	1.07	F	F	15001	1
1.82	R	R	1499	1	1.00	R	R	5214	1
1.81	-9.13	1030.01	10580	1	0.95	F	F	15001	1
1.80	6.06	245.00	2456	1	0.90	R	R	14508	1

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C259

CAMBRIDGE, UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 41.38 N GEOGRAPHIC LONGITUDE = 288.88 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
0.85	F	F	15001	1	0.45	R	R	2365	1
0.80	F	F	15001	1	0.40	R	R	2604	1
0.75	R	R	1730	1	0.35	R	R	2926	1
0.70	R	R	1976	1	0.30	R	R	3356	1
0.65	R	R	2013	1	0.25	R	R	3966	1
0.60	R	R	2007	1	0.20	R	R	4893	1
0.55	R	R	2056	1	0.15	R	R	6457	1
0.50	R	R	2179	1	0.10	R	R	9613	1
					0.05	F	F	15001	1

C280

## CAPE SCHMIDT, U.S.S.R.

GEOGRAPHIC LATITUDE = 68.87 N

GEOGRAPHIC LONGITUDE = 180.51 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	41.15	-154.60	104	10	0.70	4.48	-30.99	1437	1
19.00	39.89	-155.19	104	10	0.69	6.95	-20.69	1484	1
18.00	38.58	-155.87	104	10	0.68	11.74	-9.10	1535	1
17.00	37.24	-156.67	104	10	0.67	12.20	2.27	1584	1
16.00	35.90	-157.57	104	10	0.66	10.48	18.10	1650	1
15.00	34.58	-158.55	105	10	0.65	-0.97	57.71	1807	1
14.00	33.35	-159.65	105	10	0.64	3.10	126.92	2770	1
13.00	32.26	-160.77	149	9	0.63	17.24	92.88	2616	1
12.00	31.38	-161.84	149	9	0.62	-23.62	651.48	7934	1
11.00	30.77	-162.70	194	8	0.61	R	R	2536	1
10.00	30.42	-163.05	237	7	0.60	13.18	167.75	4032	1
9.00	30.08	-162.57	237	7	0.59	10.55	140.04	2968	1
8.00	29.03	-160.98	280	6	0.58	-4.65	380.04	4801	1
7.00	25.99	-158.81	336	5	0.57	F	F	15001	1
6.00	20.31	-158.00	340	5	0.56	F	F	15001	1
5.00	15.31	-159.70	472	4	0.55	F	F	15001	1
4.00	12.86	-157.64	545	3	0.54	F	F	15001	1
3.00	3.37	-156.13	562	3	0.53	F	F	15001	1
2.00	-9.05	-148.11	661	2	0.52	F	F	15001	1
1.90	-12.05	-146.72	670	2	0.51	F	F	15001	1
1.80	-13.62	-145.88	679	2	0.50	F	F	15001	1
1.70	-14.34	-144.19	689	2	0.49	F	F	15001	1
1.60	-17.43	-141.10	703	2	0.48	F	F	15001	1
1.50	-20.21	-138.70	849	1	0.47	F	F	15001	1
1.40	-21.36	-135.60	870	1	0.46	F	F	15001	1
1.30	-25.22	-130.23	900	1	0.45	F	F	15001	1
1.20	-26.42	-125.36	930	1	0.44	F	F	15001	1
1.10	-28.87	-116.96	975	1	0.43	F	F	15001	1
1.00	-29.94	-105.12	1032	1	0.42	F	F	15001	1
0.90	-27.67	-89.86	1109	1	0.41	F	F	15001	1
0.81	-19.80	-71.03	1211	1	0.40	F	F	15001	1
0.80	-18.42	-69.08	1225	1	0.39	F	F	15001	1
0.74	-17.32	-67.31	1236	1	0.38	F	F	15001	1
0.76	-16.22	-65.13	1291	1	0.37	F	F	15001	1
0.77	-14.63	-62.01	1260	1	0.32	F	F	15001	1
0.76	-12.23	-58.01	1284	1	0.27	F	F	15001	1
0.75	-9.15	-53.65	1311	1	0.22	F	F	15001	1
0.74	-6.15	-49.75	1334	1	0.17	R	R	6568	1
0.75	-3.84	-46.50	1355	1	0.12	R	R	9031	1
0.72	-1.96	-43.22	1376	1	0.07	F	F	15001	1
0.71	0.55	-38.45	1401	1	0.02	F	F	15001	1

## CHACALTAYA, BOLIVIA

GEOGRAPHIC LATITUDE = 16.31 S

GEOGRAPHIC LONGITUDE = 291.85 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	2.43	17.12	116	10	12.88	R	R	1451	1
19.00	4.44	23.10	118	10	12.87	R	R	1410	1
18.00	6.75	30.35	122	10	12.86	R	R	1377	1
17.00	9.37	39.41	126	10	12.85	R	R	1348	1
16.00	12.22	51.40	131	10	12.84	R	R	1324	1
15.00	14.78	68.70	140	10	12.83	R	R	1301	1
14.00	14.36	97.99	157	10	12.82	R	R	1281	1
13.90	13.79	102.26	160	10	12.81	R	R	1264	1
13.80	13.04	106.95	163	10	12.80	R	R	1247	1
13.70	12.04	112.17	167	10	12.79	R	R	1232	1
13.60	10.73	118.03	171	10	12.78	R	R	1217	1
13.50	9.03	124.71	247	9	12.77	R	R	1203	1
13.40	6.83	132.59	255	9	12.76	R	R	1189	1
13.30	3.98	142.22	265	9	12.75	R	R	1177	1
13.20	0.35	154.81	279	9	12.74	R	R	1165	1
13.10	-3.93	173.42	300	9	12.73	R	R	1152	1
13.09	-4.36	175.88	1366	1	12.68	R	R	1093	1
13.08	-4.77	178.51	1379	1	12.63	R	R	1043	1
13.07	-5.15	181.33	1393	1	12.58	R	R	1002	1
13.06	-5.51	184.36	1409	1	12.53	R	R	967	1
13.05	-5.83	187.65	1426	1	12.48	R	R	938	1
13.04	-6.10	191.23	1444	1	12.43	R	R	913	1
13.03	-6.29	195.17	1464	1	12.38	R	R	890	1
13.02	-6.39	199.53	1487	1	12.33	R	R	870	1
13.01	-6.36	204.40	1512	1	12.28	R	R	851	1
13.00	-6.16	209.93	1541	1	12.23	R	R	834	1
12.99	-5.74	216.32	1575	1	12.18	R	R	818	1
12.98	-5.04	223.86	1615	1	12.13	R	R	803	1
12.97	-3.99	233.80	1665	1	12.08	R	R	788	1
12.96	-2.55	244.92	1730	1	12.03	R	R	775	1
12.95	-0.99	261.66	1824	1	12.00	R	R	160	9
12.94	-1.57	280.69	1993	1	11.98	R	R	761	1
12.93	R	R	2088	1	11.93	R	R	749	1
12.92	R	R	1819	1	11.88	R	R	738	1
12.91	R	R	1673	1	11.83	R	R	725	1
12.90	R	R	1571	1	11.78	R	R	715	1
12.89	R	R	1502	1	11.73	R	R	704	1
					11.68	R	R	694	1

## CHICAGO, UNITED STATES

GEOGRAPHIC LATITUDE = 41.83 N      GEOGRAPHIC LONGITUDE = 272.33 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT    LONG		NSTEP	SS	P	ASYMPTOTIC LAT    LONG		NSTEP	SS
20.00	11.64	-52.02	106	10	1.79	-7.56	335.17	3603	1
19.00	9.74	-51.71	106	10	1.78	R	R	2972	1
18.00	7.81	-51.45	106	10	1.77	.93	620.90	5149	1
17.00	5.75	-51.25	107	10	1.76	3.23	202.52	1935	1
16.00	3.50	-51.15	107	10	1.75	R	R	3320	1
15.00	1.32	-51.11	108	10	1.74	16.69	1141.56	10642	1
14.00	-.90	-51.14	108	10	1.73	13.55	491.61	5046	1
13.00	-3.05	-51.34	153	9	1.72	-10.68	684.16	7064	1
12.00	-5.00	-51.55	154	9	1.71	-8.53	968.55	8897	1
11.00	-6.60	-51.60	201	8	1.70	13.30	809.01	7004	1
10.00	-7.71	-51.44	246	7	1.69	R	R	5275	1
9.00	-8.35	-50.62	246	7	1.68	R	R	1814	1
8.00	-9.02	-48.28	291	6	1.67	R	R	1820	1
7.00	-11.21	-43.58	351	5	1.66	F	F	15001	1
6.00	-17.01	-36.20	357	5	1.65	F	F	15001	1
5.00	-24.41	-27.57	505	4	1.64	-.36	985.90	10687	1
4.00	-24.95	-18.30	593	3	1.63	F	F	15001	1
3.00	-21.30	12.84	634	3	1.62	R	R	8679	1
2.90	-19.38	15.51	710	2	1.61	F	F	15001	1
2.80	-17.31	18.07	716	2	1.60	F	F	15001	1
2.70	-15.00	21.24	723	2	1.59	F	F	15001	1
2.60	-12.24	25.91	731	2	1.58	F	F	15001	1
2.50	-8.14	32.54	745	2	1.57	F	F	15001	1
2.40	-1.42	41.12	765	2	1.56	R	R	11927	1
2.30	8.46	51.37	795	2	1.55	F	F	15001	1
2.20	19.41	63.95	832	2	1.54	F	F	15001	1
2.10	27.14	81.50	875	2	1.53	R	R	1877	1
2.00	25.85	115.02	945	2	1.52	R	R	1814	1
1.99	23.94	120.50	1137	1	1.51	R	R	13746	1
1.98	21.27	126.85	1155	1	1.50	F	F	15001	1
1.97	17.34	134.04	1178	1	1.49	F	F	15001	1
1.96	11.66	142.54	1207	1	1.48	R	R	11806	1
1.95	3.40	153.30	1247	1	1.47	R	R	10349	1
1.94	-8.10	169.97	1308	1	1.46	F	F	15001	1
1.93	-17.02	210.25	1433	1	1.45	F	F	15001	1
1.92	-26.02	333.35	2487	1	1.44	F	F	15001	1
1.91	-.04	242.80	2064	1	1.43	F	F	15001	1
1.90	2.95	178.28	1446	2	1.38	F	F	15001	1
1.89	17.60	426.42	3300	1	1.33	R	R	4512	1
1.88	15.96	805.10	7030	1	1.28	F	F	15001	1
1.87	9.82	210.84	2398	1	1.23	F	F	15001	1
1.86	-5.21	254.08	3105	1	1.18	F	F	15001	1
1.85	N	N	1500	1	1.13	F	F	15001	1
1.84	N	N	1605	1	1.08	F	F	15001	1
1.83	-4.54	579.20	4906	1	1.03	R	R	14301	1
1.82	-6.45	378.05	3704	1	1.00	R	R	2608	1
1.81	4.04	218.87	2312	1	0.98	F	F	15001	1
1.80	2.78	958.95	6484	2	0.93	R	R	10226	1

CHICAGO, UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 41.85 N GEOGRAPHIC LONGITUDE = 272.33 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC				P	ASYMPTOTIC			
	LAT	LONG	NSTEP	SS		LAT	LONG	NSTEP	SS
U.60	F	F	15001	1	U.68	R	R	1847	1
U.85	R	R	9092	1	U.63	R	R	1867	1
U.70	R	R	5294	1	U.58	R	R	1974	1
U.75	F	F	15001	1	U.53	R	R	2109	1
					U.48	R	R	2222	1

## CHURCHILL, CANADA

GEOGRAPHIC LATITUDE = 58.75 N

GEOGRAPHIC LONGITUDE = 265.71 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	41.97	-71.60	103	10	0.37	-30.51	-16.69	1963	1
19.00	41.06	-71.74	103	10	0.36	-30.04	-13.48	2018	1
18.00	40.12	-71.95	103	10	0.35	-29.41	-10.13	2075	1
17.00	39.14	-72.25	103	10	0.34	-28.42	-6.96	2136	1
16.00	38.13	-72.64	103	10	0.33	-27.11	-3.46	2202	1
15.00	37.13	-73.13	103	10	0.32	-25.31	0.59	2275	1
14.00	36.16	-73.72	103	10	0.31	-23.05	4.89	2353	1
13.00	35.25	-74.37	146	9	0.30	-20.07	9.48	2441	1
12.00	34.45	-75.04	146	9	0.29	-16.29	14.33	2536	1
11.00	33.79	-75.61	191	8	0.28	-11.51	19.57	2643	1
10.00	33.25	-75.91	233	7	0.27	-5.29	25.60	2766	1
9.00	32.70	-75.72	233	7	0.26	3.22	33.24	2912	1
8.00	31.73	-74.84	275	6	0.25	14.60	43.62	3093	1
7.00	29.67	-73.56	320	5	0.24	27.69	62.58	3333	1
6.00	26.25	-73.14	333	5	0.23	21.30	119.34	3798	1
5.00	23.30	-74.22	459	4	0.22	-9.26	287.82	7966	1
4.00	20.91	-72.90	530	3	0.21	-4.79	652.23	14351	1
3.00	15.51	-72.72	543	3	0.20	F	F	15001	1
2.00	7.14	-69.89	633	2	0.19	F	F	15001	1
1.90	5.83	-69.97	640	2	0.18	F	F	15001	1
1.80	5.20	-69.84	647	2	0.17	F	F	15001	1
1.70	4.09	-68.93	656	2	0.16	F	F	15001	1
1.60	2.09	-68.46	667	2	0.15	F	F	15001	1
1.50	1.06	-68.32	802	1	0.14	F	F	15001	1
1.40	-0.63	-67.15	819	1	0.13	F	F	15001	1
1.30	-2.51	-66.85	841	1	0.12	F	F	15001	1
1.20	-4.53	-65.45	867	1	0.11	F	F	15001	1
1.10	-6.38	-64.60	899	1	0.10	F	F	15001	1
1.00	-9.09	-63.27	941	1	0.09	F	F	15001	1
0.90	-11.94	-61.40	993	1	0.08	F	F	15001	1
0.80	-15.02	-58.75	1063	1	0.07	F	F	15001	1
0.70	-19.16	-55.16	1160	1	0.06	F	F	15001	1
0.60	-23.31	-49.87	1295	1	0.05	F	F	15001	1
0.50	-27.92	-40.90	1497	1	0.04	F	F	15001	1
0.40	-30.99	-24.19	1823	1	0.03	F	F	15001	1
0.39	-30.94	-21.90	1868	1	0.02	F	F	15001	1
0.38	-30.90	-19.07	1914	1	0.01	F	F	15001	1

## CLIMAX, UNITED STATES

GEOGRAPHIC LATITUDE = 39.37 N      GEOGRAPHIC LONGITUDE = 253.82 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS
20.00	.12	-70.01	107	10	3.14	R	R	1365	1
19.00	-2.13	-69.54	108	10	3.13	R	R	1371	1
18.00	-4.54	-69.10	108	10	3.12	R	R	1406	1
17.00	-7.10	-68.60	109	10	3.11	R	R	1471	1
16.00	-9.70	-68.22	110	10	3.10	6.02	438.19	6308	1
15.00	-12.54	-67.77	110	10	3.09	-8.43	244.38	3076	1
14.00	-15.31	-67.27	111	10	3.08	-9.71	247.54	3034	1
13.00	-17.90	-66.69	159	9	3.07	13.48	451.46	4895	1
12.00	-20.39	-65.90	160	9	3.06	F	F	15001	1
11.00	-22.32	-64.90	204	8	3.05	1.96	508.87	6419	1
10.00	-23.50	-63.51	250	7	3.04	R	?	4008	1
9.00	-24.04	-61.13	257	7	3.03	R	R	6546	1
8.00	-24.24	-56.89	304	6	3.02	R	R	14547	1
7.00	-25.60	-48.84	369	5	3.01	R	R	6098	1
6.00	-29.49	-33.43	380	5	3.00	R	R	2831	1
5.00	-27.33	-8.02	558	4	2.99	10.15	752.64	6669	1
4.90	-25.90	-5.47	563	4	2.98	F	F	15001	1
4.80	-24.35	-3.07	568	4	2.97	R	R	5304	1
4.70	-22.53	-1.81	572	4	2.96	R	R	3764	1
4.60	-20.58	1.33	577	4	2.95	R	R	3641	1
4.50	-18.50	3.37	660	3	2.94	-4.66	265.52	3093	1
4.40	-16.33	5.30	671	3	2.93	1.86	520.33	7475	1
4.30	-14.11	7.40	676	3	2.92	F	F	15001	1
4.20	-11.83	9.50	681	3	2.91	3.23	910.81	12530	1
4.10	-9.47	11.90	685	3	2.90	R	R	6265	1
4.00	-6.92	14.83	690	3	2.89	.79	579.93	8321	1
3.90	-4.03	18.37	697	3	2.88	-2.20	520.38	5956	1
3.80	-1.54	22.81	700	3	2.87	F	F	15001	1
3.70	3.91	28.57	710	3	2.86	R	R	1838	1
3.60	9.80	36.39	735	3	2.85	R	R	1795	1
3.50	17.81	48.07	761	3	2.84	R	R	1788	1
3.40	26.61	69.42	800	3	2.83	R	R	1795	1
3.30	36.92	110.78	900	3	2.82	R	R	1815	1
3.29	41.32	126.95	1228	1	2.81	R	R	1842	1
3.28	43.74	136.93	1260	1	2.80	R	R	1950	1
3.27	46.07	151.07	1320	1	2.79	F	F	15001	1
3.26	48.20	170.17	1411	1	2.78	R	R	12691	1
3.25	50.00	190.53	1864	1	2.77	F	F	15001	1
3.24	51.77	214.47	3297	1	2.76	R	R	11733	1
3.23	53.09	248.44	3290	1	2.75	R	R	9908	1
3.22	54.95	280.50	1795	1	2.74	F	F	15001	1
3.21	56.64	318.20	4673	1	2.73	R	R	3279	1
3.20	58.60	362.25	1647	3	2.72	F	F	15001	1
3.19	60.35	412.90	3651	1	2.71	F	F	15001	1
3.18	62.65	477.00	2334	1	2.70	F	F	15001	1
3.17	65.29	544.72	5748	1	2.69	F	F	15001	1
3.16	68.00	614.00	1421	1	2.68	R	R	2372	1
3.15	70.00	680.00	1380	1	2.67	R	R	2480	1

CLIMAX, UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 39.37 N GEOGRAPHIC LONGITUDE = 253.82

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIRN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	S
2.62	K	K	14372	1	2.12	R	R	1957	
2.57	K	K	3177	1	2.07	R	R	1956	
2.52	K	K	12990	1	2.02	R	R	1956	
2.47	K	K	0970	1	1.97	F	F	15001	
2.42	F	F	15001	1	1.92	R	R	4783	
2.37	F	F	15001	1	1.87	R	R	3541	
2.32	K	K	1992	1	1.82	R	R	9267	
2.27	K	K	11711	1	1.77	F	F	15001	
2.22	K	K	8310	1	1.72	R	R	4788	
2.17	K	K	8000	1	1.67	F	F	15001	
					1.62	R	R	2253	



## DALLAS, UNITED STATES

GEOGRAPHIC LATITUDE = 32.78 N

GEOGRAPHIC LONGITUDE = 263.20 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS
20.00	-7.14	-51.35	109	10	4.85	24.80	116.16	1188	1
19.00	-9.65	-50.12	110	10	4.84	22.90	119.64	1200	1
18.00	-12.34	-48.78	110	10	4.83	20.63	123.24	1213	1
17.00	-15.21	-47.29	111	10	4.82	17.92	127.00	1228	1
16.00	-18.22	-45.60	112	10	4.81	14.74	130.93	1243	1
15.00	-21.32	-43.65	114	10	4.80	11.01	135.15	1261	1
14.00	-24.40	-41.36	115	10	4.79	6.67	139.76	1282	1
13.00	-27.29	-38.61	165	9	4.78	1.66	145.03	1306	1
12.00	-29.69	-35.34	167	9	4.77	-4.01	151.	1333	1
11.00	-31.25	-31.50	220	8	4.76	-10.21	159.72	1368	1
10.00	-31.54	-27.17	270	7	4.75	-16.11	171.82	1413	1
9.00	-30.27	-22.25	273	7	4.74	-18.56	191.38	1478	1
8.00	-27.51	-15.90	326	6	4.73	-5.54	225.76	1595	1
7.00	-23.46	-5.05	398	5	4.72	-24.30	309.93	2806	1
6.00	-14.60	17.25	420	5	4.71	4.54	238.59	2467	1
5.90	-12.75	20.51	584	4	4.70	1.44	239.17	1799	4
5.80	-10.54	23.99	590	4	4.69	.56	195.66	2344	1
5.70	-7.88	27.73	598	4	4.68	25.78	460.33	4680	1
5.60	-4.68	31.77	607	4	4.67	14.16	164.42	1963	1
5.50	-1.84	36.17	617	4	4.66	1.19	148.17	1926	1
5.40	3.74	41.07	630	4	4.65	-5.82	194.15	2040	1
5.30	9.18	46.75	645	4	4.64	-14.42	253.89	3147	1
5.20	15.46	53.72	663	4	4.63	-7.45	244.31	2475	1
5.10	22.36	63.15	1024	1	4.62	.99	151.02	2167	1
5.09	23.06	64.31	1028	1	4.61	-28.27	335.91	2837	1
5.08	23.74	65.51	1032	1	4.60	14.45	170.54	2366	1
5.07	24.43	66.76	1036	1	4.59	13.25	236.57	2595	1
5.06	25.10	68.08	1041	1	4.58	6.76	158.06	2500	1
5.05	25.75	69.45	1045	1	4.57	-8.19	247.26	2988	1
5.04	26.39	70.89	1051	1	4.56	R	R	1582	1
5.03	27.01	72.39	1056	1	4.55	R	R	1438	1
5.02	27.60	73.98	1060	1	4.54	R	R	1426	1
5.01	28.17	75.64	1065	1	4.53	R	R	1423	1
5.00	28.70	77.34	1071	1	4.52	R	R	1424	1
4.99	29.18	79.22	1076	1	4.51	R	R	1428	1
4.98	29.61	81.16	1082	1	4.50	R	R	1435	1
4.97	29.99	83.17	1088	1	4.49	R	R	1444	1
4.96	30.30	85.30	1094	1	4.48	R	R	1456	1
4.95	30.52	87.54	1101	1	4.47	-12.98	344.70	4769	1
4.94	30.66	89.89	1108	1	4.46	11.49	399.61	4714	1
4.93	30.69	92.36	1115	1	4.45	-5.27	231.03	2779	1
4.92	30.60	94.92	1122	1	4.44	-6.04	339.64	4706	1
4.91	30.37	97.63	1131	1	4.43	-14.31	616.72	5929	1
4.90	29.98	100.43	1139	1	4.42	8.76	200.09	2499	1
4.89	29.41	103.35	1147	1	4.41	R	R	2800	1
4.88	28.63	106.40	1157	1	4.40	-6.97	221.17	3005	1
4.87	27.63	109.53	1166	1	4.39	1.96	361.09	4347	1
4.86	26.36	112.80	1177	1	4.38	-19.46	282.80	2660	1

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DALLAS, UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 32.78 N GEOGRAPHIC LONGITUDE = 263.20 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.37	9.04	2.93	2366	1	4.01	R	R	1801	1
4.36	R	R	3940	1	4.00	R	R	1794	1
4.35	R	R	2496	1	3.99	R	R	1794	1
4.34	-13.35	362.61	4309	1	3.98	R	R	1798	1
4.33	-4.84	572.30	6477	1	3.97	R	R	1805	1
4.32	R	R	4495	1	3.96	R	R	1815	1
4.31	16.04	462.41	4852	1	3.95	R	R	1816	1
4.30	R	R	8947	1	3.94	R	R	1819	1
4.29	16.01	750.40	7866	1	3.93	R	R	1845	1
4.28	2.29	533.74	6638	1	3.92	R	R	1981	1
4.27	F	F	15001	1	3.91	R	R	4444	1
4.26	-15.40	241.11	2496	1	3.90	R	R	9445	1
4.25	-1.30	222.42	2311	1	3.89	R	R	6735	1
4.24	-5.20	225.81	2330	1	3.88	R	R	9213	1
4.23	-7.56	594.23	3396	1	3.87	R	R	5337	1
4.22	R	R	3123	1	3.86	R	R	2749	1
4.21	.24	449.33	6606	1	3.81	R	R	3180	1
4.20	R	R	10718	1	3.76	R	R	9989	1
4.19	R	R	2294	1	3.71	R	R	12645	1
4.18	R	R	2334	1	3.66	R	R	5052	1
4.17	-14.67	285.25	3877	1	3.61	R	R	6149	1
4.16	-9.25	289.52	3832	1	3.56	R	R	1807	1
4.15	-13.92	1037.22	12262	1	3.51	R	R	1684	1
4.14	R	R	7297	1	3.46	R	R	2554	1
4.13	14.43	476.88	4724	1	3.41	R	R	2260	1
4.12	R	R	12092	1	3.36	R	R	14380	1
4.11	R	R	5370	1	3.31	R	R	7817	1
4.10	-2.63	358.24	4137	1	3.26	R	R	12932	1
4.09	R	R	3030	1	3.21	R	R	2594	1
4.08	-1.23	601.36	7212	1	3.16	F	F	15001	1
4.07	-5.86	545.65	5548	1	3.11	R	R	1904	1
4.06	R	R	7911	1	3.06	R	R	12040	1
4.05	R	R	1985	1	3.01	R	R	2076	1
4.04	R	R	1018	1	2.96	R	R	6262	1
4.03	R	R	1864	1	2.91	R	R	3278	1
4.02	R	R	1821	1	2.86	R	R	14035	1
					2.81	F	F	15001	1

## DEEP RIVER, CANADA

GEOGRAPHIC LATITUDE = 46.10 N

GEOGRAPHIC LONGITUDE = 282.50 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
20.00	22.04	-41.67	105	10	1.11	10.46	569.94	7926	1
19.00	20.47	-41.41	105	10	1.10	3.17	244.19	2755	1
18.00	18.75	-41.22	105	10	1.09	-5.76	1018.80	9364	1
17.00	16.94	-41.11	106	10	1.08	-14.13	355.27	3518	1
16.00	15.04	-41.12	106	10	1.07	R	R	2692	1
15.00	13.10	-41.25	106	10	1.06	R	R	3216	1
14.00	11.16	-41.52	106	10	1.05	19.40	836.00	7599	1
13.00	9.30	-41.90	151	9	1.04	-12.31	251.93	2168	1
12.00	7.65	-42.34	152	9	1.03	10.75	507.96	5508	1
11.00	6.27	-42.84	198	8	1.02	-1.67	899.18	9071	1
10.00	5.35	-43.18	241	7	1.01	F	F	15001	1
9.00	4.85	-42.87	241	7	1.00	F	F	15001	1
8.00	4.24	-41.34	285	6	0.99	F	F	15001	1
7.00	2.25	-38.05	545	5	0.98	R	R	12054	1
6.00	-3.03	-33.59	547	5	0.97	R	R	7327	1
5.00	-10.03	-30.55	484	4	0.96	F	F	15001	1
4.00	-12.35	-26.82	565	3	0.95	F	F	15001	1
3.00	-20.96	-13.65	588	3	0.94	F	F	15001	1
2.90	-21.04	-12.60	649	2	0.93	F	F	15001	1
2.80	-20.94	-11.42	652	2	0.92	F	F	15001	1
2.70	-20.94	-9.58	650	2	0.91	F	F	15001	1
2.60	-21.31	-6.92	660	2	0.90	F	F	15001	1
2.50	-22.15	-3.40	666	2	0.89	F	F	15001	1
2.40	-23.04	.50	675	2	0.88	R	R	2768	1
2.30	-23.60	4.24	681	2	0.87	F	F	15001	1
2.20	-23.20	7.00	690	2	0.86	F	F	15001	1
2.10	-22.30	4.54	698	2	0.85	F	F	15001	1
2.00	-21.44	13.54	707	2	0.84	F	F	15001	1
1.90	-20.42	20.14	720	2	0.83	F	F	15001	1
1.80	-18.04	27.34	738	2	0.82	F	F	15001	1
1.70	-14.60	52.18	756	2	0.77	F	F	15001	1
1.60	-10.70	58.78	776	2	0.72	F	F	15001	1
1.50	-2.37	50.64	950	1	0.67	R	R	3353	1
1.40	7.60	60.91	1006	1	0.62	F	F	15001	1
1.30	21.84	63.52	1085	1	0.57	F	F	15001	1
1.20	14.35	150.47	1280	1	0.52	F	F	15001	1
1.19	5.94	161.32	1314	1	0.47	F	F	15001	1
1.18	-6.94	178.10	1374	1	0.42	R	R	6239	1
1.17	-18.50	227.41	1522	1	0.37	R	R	3086	1
1.16	-26.42	315.01	3267	1	0.32	R	R	3345	1
1.15	7.02	207.49	1814	1	0.27	R	R	3825	1
1.14	7.92	250.27	2564	1	0.22	R	R	4634	1
1.13	.49	704.10	8422	1	0.17	R	R	5933	1
1.12	-14.37	354.74	4120	1	0.12	R	R	8329	1
					0.07	R	R	14188	1

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## DENVER, UNITED STATES

GEOGRAPHIC LATITUDE = 39.75 N

GEOGRAPHIC LONGITUDE = 255.00 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	1.27	-69.35	107	10	3.05	R	R	2854	1
19.00	-0.94	-68.93	108	10	3.04	5.51	221.07	2465	1
18.00	-3.24	-68.54	108	10	3.03	-0.01	310.40	3802	1
17.00	-5.79	-68.17	109	10	3.02	R	R	1539	1
16.00	-8.40	-67.81	109	10	3.01	R	R	1412	1
15.00	-11.08	-67.45	110	10	3.00	R	R	1386	1
14.00	-13.78	-67.09	110	10	2.99	R	R	1379	1
13.00	-16.38	-66.66	158	9	2.98	R	R	1385	1
12.00	-18.72	-66.11	159	9	2.97	R	R	1405	1
11.00	-20.61	-65.34	208	8	2.96	R	R	1440	1
10.00	-21.84	-64.11	254	7	2.95	R	R	6847	1
9.00	-22.38	-61.96	255	7	2.94	R	R	2896	1
8.00	-22.72	-57.98	302	6	2.93	5.10	1101.77	12596	1
7.00	-24.37	-50.41	366	5	2.92	15.79	1185.99	10928	1
6.00	-28.93	-36.22	377	5	2.91	0.61	542.40	6340	1
5.00	-29.37	-13.12	549	4	2.90	R	R	12120	1
4.90	-28.45	-10.76	553	4	2.89	-12.39	293.03	3716	1
4.80	-27.33	-8.55	557	4	2.88	11.04	416.69	4397	1
4.70	-26.03	-6.45	561	4	2.87	F	F	15001	1
4.60	-24.58	-4.47	565	4	2.86	7.60	497.84	4056	1
4.50	-23.01	-2.61	651	3	2.85	R	R	4644	1
4.40	-21.35	-0.79	655	3	2.84	-0.40	583.80	5884	1
4.30	-19.63	1.04	659	3	2.83	R	R	3554	1
4.20	-17.84	2.99	663	3	2.82	4.01	856.93	10482	1
4.10	-15.98	5.14	666	3	2.81	R	R	7543	1
4.00	-13.97	7.69	671	3	2.80	16.37	822.25	9706	1
3.90	-11.70	10.74	675	3	2.79	R	R	2851	1
3.80	-8.99	14.53	682	3	2.78	R	R	11850	1
3.70	-5.51	19.25	691	3	2.77	-6.45	1288.10	13281	1
3.60	-0.91	25.18	703	3	2.76	F	F	15001	1
3.50	5.45	32.82	720	3	2.75	3.49	722.65	6801	1
3.40	14.17	43.91	747	3	2.74	R	R	2251	1
3.30	24.70	61.81	788	3	2.73	F	F	15001	1
3.20	25.99	100.78	867	3	2.72	-7.70	986.91	12369	1
3.19	23.73	106.73	1159	1	2.71	R	R	5418	1
3.18	20.82	113.15	1179	1	2.70	R	R	12643	1
3.17	16.11	120.17	1203	1	2.69	-6.41	928.93	11902	1
3.16	10.20	128.10	1232	1	2.68	F	F	15001	1
3.15	2.45	137.78	1270	1	2.67	-5.15	630.02	6967	1
3.14	-7.19	151.52	1323	1	2.66	R	R	9048	1
3.13	-15.63	177.27	1410	1	2.65	R	R	11383	1
3.12	10.50	265.34	1707	1	2.64	R	R	1913	1
3.11	27.75	460.10	4214	1	2.63	R	R	1790	1
3.10	6.93	209.77	2192	1	2.62	R	R	1782	1
3.09	11.84	201.75	1887	1	2.61	R	R	1793	1
3.08	-3.46	165.30	1809	1	2.60	R	R	12415	1
3.07	-6.90	208.97	2464	1	2.59	R	R	11901	1
3.06	5.24	160.05	2040	1	2.58	F	F	15001	1

DENVER, UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 39.75 N

GEOGRAPHIC LONGITUDE = 255.00 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
2.57	F	F	15001	1	2.25	R	R	14569	1
2.56	R	R	7095	1	2.20	R	R	1886	1
2.55	R	R	3720	1	2.15	R	R	4567	1
2.54	F	F	15001	1	2.10	R	R	3453	1
2.53	F	F	15001	1	2.05	R	R	13936	1
2.52	R	R	3836	1	2.00	F	F	15001	1
2.51	F	F	15001	1	1.95	F	F	15001	1
2.50	F	F	15001	1	1.90	R	R	1952	1
2.49	R	R	2332	1	1.85	F	F	15001	1
2.48	R	R	11352	1	1.80	R	R	2167	1
2.47	R	R	9732	1	1.75	R	R	3180	1
2.46	F	F	15001	1	1.70	R	R	4205	1
2.45	R	R	14372	1	1.65	R	R	5183	1
2.44	F	F	15001	1	1.60	R	R	8307	1
2.43	R	R	1875	1	1.55	F	F	15001	1
2.42	R	R	1727	1	1.50	R	R	3479	1
2.40	R	R	1832	1	1.45	R	R	6327	1
2.35	R	R	2510	1	1.40	R	R	1232	1
2.30	R	R	3253	1	1.35	F	F	15001	1

C272

## DURHAM, UNITED STATES

GEOGRAPHIC LATITUDE = 43.10 N      GEOGRAPHIC LONGITUDE = 289.16 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS
20.00	18.12	-31.00	106	10	1.61	-4.02	205.13	1755	1
19.00	16.24	-29.49	106	10	1.60	5.30	515.42	4754	1
18.00	14.33	-29.04	106	10	1.59	-6.64	215.32	1979	1
17.00	12.24	-28.64	107	10	1.58	3.96	236.35	2244	1
16.00	10.04	-28.35	107	10	1.57	6.18	406.33	3980	1
15.00	7.76	-28.14	106	10	1.56	-5.47	523.70	4005	1
14.00	5.46	-28.06	106	10	1.55	R	R	1558	1
13.00	3.22	-28.14	153	9	1.54	R	R	1596	1
12.00	1.16	-28.30	154	9	1.53	6.52	531.75	5653	1
11.00	-0.53	-28.54	201	8	1.52	8.45	427.38	4561	1
10.00	-1.70	-28.65	245	7	1.51	-13.36	265.21	2367	1
9.00	-2.25	-28.24	246	7	1.50	6.57	216.35	2091	1
8.00	-2.54	-28.60	290	5	1.49	-2.82	355.99	3219	1
7.00	-3.90	-22.56	349	5	1.48	-3.96	265.89	2030	1
6.00	-8.74	-16.12	354	5	1.47	-3.31	685.78	4931	1
5.00	-16.36	-8.86	498	4	1.46	-15.87	314.54	2960	1
4.00	-17.97	-2.62	584	3	1.45	13.45	442.38	3644	1
3.00	-20.66	21.36	616	3	1.44	13.15	434.28	3411	1
2.90	-19.91	23.47	684	2	1.43	5.51	1242.40	13341	1
2.80	-18.90	25.36	690	2	1.42	R	R	2045	1
2.70	-17.77	27.53	695	2	1.41	R	R	10792	1
2.60	-16.60	30.65	700	2	1.40	9.65	756.11	7047	1
2.50	-15.22	35.37	706	2	1.39	F	F	15001	1
2.40	-13.07	41.75	720	2	1.38	R	R	9883	1
2.30	-9.41	48.90	735	2	1.37	R	R	11024	1
2.20	-4.27	55.37	753	2	1.36	F	F	15001	1
2.10	.92	60.56	771	2	1.35	F	F	15001	1
2.00	5.70	66.57	788	2	1.34	F	F	15001	1
1.90	13.04	78.32	817	2	1.33	R	R	2442	1
1.80	25.71	104.63	877	2	1.32	F	F	15001	1
1.79	26.75	108.82	1050	1	1.31	F	F	15001	1
1.78	27.53	113.41	1062	1	1.30	F	F	15001	1
1.77	27.96	118.39	1074	1	1.29	F	F	15001	1
1.76	27.93	123.79	1086	1	1.28	R	R	11667	1
1.75	27.32	129.52	1102	1	1.27	R	R	1994	1
1.74	26.01	135.56	1116	1	1.26	F	F	15001	1
1.73	23.88	141.90	1136	1	1.25	F	F	15001	1
1.72	20.80	148.45	1155	1	1.24	R	R	13025	1
1.71	16.66	155.23	1176	1	1.23	F	R	6469	1
1.70	11.29	162.46	1201	1	1.22	R	R	10064	1
1.69	4.53	170.52	1230	1	1.21	F	F	15001	1
1.68	-3.77	180.46	1266	1	1.20	F	F	15001	1
1.67	-13.43	195.00	1315	1	1.19	F	F	15001	1
1.66	-20.67	222.95	1393	1	1.18	F	F	15001	1
1.65	5.66	327.50	1680	1	1.09	R	R	3744	1
1.64	-24.97	320.46	2686	1	1.04	R	R	4755	1
1.63	-23.73	302.40	2185	1	1.00	F	F	15001	1
1.62	-14.42	326.65	2454	1	0.99	R	R	4442	1

DUMMAN, UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 43.10 N GEOGRAPHIC LONGITUDE = 289.16 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
0.94	F	F	15001	1	0.44	R	R	2478	1
0.89	F	F	15001	1	0.39	R	R	2671	1
0.84	R	R	6491	1	0.34	R	R	3005	1
0.79	R	R	12092	1	0.29	R	R	3467	1
0.74	F	F	15001	1	0.24	R	R	132	1
0.69	R	R	5590	1	0.23	R	R	4298	1
0.64	R	R	2085	1	0.22	R	R	4484	1
0.59	R	R	2011	1	0.19	R	R	5154	1
0.54	R	R	2145	1	0.14	R	R	6927	1
0.49	R	R	2281	1	0.09	R	R	10701	1
					0.04	F	F	15001	1

## ELLSWORTH, ANTARCTICA

GEOGRAPHIC LATITUDE = 77.72 S

GEOGRAPHIC LONGITUDE = 318.00 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-41.79	2.55	106	10	0.87	-7.86	138.07	1376	1
19.00	-40.06	1.49	106	10	0.86	-8.22	148.22	1412	1
18.00	-38.24	0.29	107	10	0.85	-6.03	166.66	1475	1
17.00	-36.37	-1.11	107	10	0.84	7.38	207.02	1612	1
16.00	-34.46	-2.68	107	10	0.83	6.74	411.71	3881	1
15.00	-32.54	-4.45	108	10	0.82	-4.12	346.05	2995	1
14.00	-30.70	-6.43	108	10	0.81	1.82	433.91	4186	1
13.00	-29.03	-8.57	154	9	0.80	-9.56	387.22	4311	1
12.00	-27.69	-10.82	155	9	0.79	R	R	2165	1
11.00	-26.87	-13.04	201	8	0.78	F	F	15001	1
10.00	-26.77	-14.87	246	7	0.77	17.50	857.55	9071	1
9.00	-27.46	-15.74	246	7	0.76	-14.09	315.57	3272	1
8.00	-28.42	-14.74	290	6	0.75	-3.70	319.42	2627	1
7.00	-27.75	-11.20	347	5	0.74	6.43	1148.67	12974	1
6.00	-22.21	-7.08	350	5	0.73	-10.92	1331.25	14203	1
5.00	-12.66	-7.54	490	4	0.72	F	F	15001	1
4.00	-10.80	-9.01	571	3	0.71	F	F	15001	1
3.00	1.53	-2.55	589	3	0.70	F	F	15001	1
2.00	12.66	6.92	597	2	0.69	F	F	15001	1
1.90	13.27	9.42	705	2	0.68	F	F	15001	1
1.80	16.90	13.47	716	2	0.67	F	F	15001	1
1.70	20.57	17.20	731	2	0.66	F	F	15001	1
1.60	20.56	19.33	745	2	0.65	F	F	15001	1
1.50	22.03	24.37	901	1	0.64	F	F	15001	1
1.40	25.59	33.84	934	1	0.63	F	F	15001	1
1.30	24.67	37.93	962	1	0.62	F	F	15001	1
1.20	25.64	52.33	1012	1	0.61	F	F	15001	1
1.10	25.82	62.46	1060	1	0.60	F	F	15001	1
1.00	17.82	84.15	1181	1	0.59	F	F	15001	1
0.99	18.45	35.41	1128	1	0.58	F	F	15001	1
0.98	11.88	87.07	1166	1	0.57	R	R	3239	1
0.97	11.81	89.42	1175	1	0.56	F	F	15001	1
0.96	9.67	92.67	1169	1	0.55	F	F	15001	1
0.95	7.65	96.83	1205	1	0.54	F	F	15001	1
0.94	4.89	101.81	1225	1	0.53	F	F	15001	1
0.93	1.63	107.34	1247	1	0.52	F	F	15001	1
0.92	-1.61	113.14	1271	1	0.51	F	F	15001	1
0.91	-4.23	118.72	1295	1	0.50	F	F	15001	1
0.90	-5.91	123.61	1316	1	0.49	F	F	15001	1
0.89	-6.79	127.81	1335	1	0.48	F	F	15001	1
0.88	-7.31	132.10	1353	1	0.47	F	F	15001	1



## GOOSE BAY, CANADA

GEOGRAPHIC LATITUDE = 53.33 N

GEOGRAPHIC LONGITUDE = 299.58 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	35.52	-20.88	104	10	0.64	27.22	132.49	1564	1
19.00	34.06	-20.61	104	10	0.63	25.67	149.26	1626	1
18.00	32.50	-20.44	104	10	0.62	13.98	173.86	1734	1
17.00	30.86	-20.37	105	10	0.61	-12.40	205.40	1897	1
16.00	29.14	-20.46	105	10	0.60	10.06	416.28	3662	1
15.00	27.39	-20.71	105	10	0.59	2.45	294.61	2688	1
14.00	25.64	-21.11	106	10	0.58	1.33	278.56	3398	1
13.00	23.98	-21.72	149	9	0.57	-10.83	349.12	5983	1
12.00	22.52	-22.46	150	9	0.56	-10.62	545.52	5865	1
11.00	21.40	-23.28	196	8	0.55	5.63	354.93	3753	1
10.00	20.75	-23.96	238	7	0.54	-10.18	290.68	2991	1
9.00	20.60	-24.08	238	7	0.53	F	F	15001	1
8.00	20.54	-23.00	282	6	0.52	R	R	6336	1
7.00	19.29	-20.23	338	5	0.51	F	F	15001	1
6.00	14.92	-16.78	340	5	0.50	F	F	15001	1
5.00	8.80	-15.86	473	4	0.49	R	R	4047	1
4.00	7.26	-14.64	548	3	0.48	F	F	15001	1
3.00	-1.24	-9.15	565	3	0.47	F	F	15001	1
2.00	-8.58	0.90	662	2	0.46	F	F	15001	1
1.90	-10.52	3.62	671	2	0.45	F	F	15001	1
1.80	-12.60	5.62	681	2	0.44	F	F	15001	1
1.70	-12.48	6.74	691	2	0.43	F	F	15001	1
1.60	-13.54	9.66	783	2	0.42	F	F	15001	1
1.50	-15.94	13.80	888	1	0.41	F	F	15001	1
1.40	-16.21	16.89	871	1	0.40	F	F	15001	1
1.30	-17.52	21.75	898	1	0.39	F	F	15001	1
1.20	-17.71	26.81	930	1	0.38	F	F	5001	1
1.10	-18.10	34.24	973	1	0.37	F	F	15001	1
1.00	-16.84	42.29	1025	1	0.36	F	F	15001	1
0.90	-12.93	53.06	1097	1	0.35	F	F	15001	1
0.80	-4.30	48.93	1203	1	0.34	F	F	15001	1
0.70	13.40	42.59	1379	1	0.33	F	F	15001	1
0.60	19.59	46.46	1392	1	0.32	F	F	15001	1
0.50	18.77	102.39	1422	1	0.23	F	F	15001	1
0.47	22.56	109.81	1428	1	0.18	R	R	6993	1
0.46	25.24	117.81	1453	1	0.13	R	R	8531	1
0.45	26.57	123.43	1525	1	0.08	R	R	13790	1
					0.03	F	F	15001	1

## HALEAKALA, UNITED STATES

GEOGRAPHIC LATITUDE = 20.71 N

GEOGRAPHIC LONGITUDE = 203.74 W

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-22.87	-73.99	118	10	13.04	R	R	2047	1
19.00	-25.03	-67.12	121	10	13.03	R	R	1581	1
18.00	-26.76	-58.50	125	10	13.02	R	R	1505	1
17.00	-27.45	-47.46	129	10	13.01	R	R	1454	1
16.00	-25.27	-33.15	136	10	13.00	R	R	1415	1
15.00	-18.63	-14.61	147	10	12.99	R	R	1384	1
14.90	-17.44	-12.47	148	10	12.98	R	R	1356	1
14.80	-16.12	-10.22	150	10	12.97	R	R	1332	1
14.70	-14.67	-7.90	152	10	12.96	R	R	1311	1
14.60	-13.07	-5.52	153	10	12.95	R	R	1291	1
14.50	-11.32	-3.01	155	10	12.94	R	R	1273	1
14.40	-9.38	-0.37	157	10	12.93	R	R	1257	1
14.30	-7.25	2.44	160	10	12.92	R	R	1242	1
14.20	-4.91	5.39	162	10	12.91	R	R	1227	1
14.10	-2.34	8.60	165	10	12.90	R	R	1212	1
14.00	0.48	12.11	168	10	12.89	R	R	1200	1
13.90	3.60	16.03	172	10	12.88	R	R	1187	1
13.80	7.00	20.49	176	10	12.87	R	R	1175	1
13.70	10.71	25.73	181	10	12.86	R	R	1163	1
13.60	14.68	32.14	187	10	12.85	R	R	1151	1
13.50	18.74	40.32	273	9	12.76	R	R	1066	1
13.40	22.44	51.41	286	9	12.71	R	R	1028	1
13.30	24.40	67.44	304	9	12.66	R	R	995	1
13.20	20.16	92.20	332	9	12.61	R	R	966	1
13.10	18.98	95.82	1512	1	12.56	R	R	941	1
13.18	17.57	98.96	1531	1	12.51	R	R	917	1
13.17	15.91	102.64	1552	1	12.46	R	R	896	1
13.16	13.95	107.60	1574	1	12.41	R	R	875	1
13.15	11.63	110.91	1600	1	12.36	R	R	857	1
13.14	8.92	115.60	1628	1	12.31	R	R	839	1
13.13	5.75	121.00	1661	1	12.26	R	R	824	1
13.12	2.04	127.35	1700	1	12.21	R	R	809	1
13.11	-2.16	135.04	1747	1	12.16	R	R	794	1
13.10	-6.78	145.13	1806	1	12.11	R	R	780	1
13.09	-10.94	159.70	1882	1	12.06	R	R	766	1
13.08	-11.02	164.46	2020	1	12.01	R	R	755	1
13.07	9.22	252.85	2426	1	11.96	R	R	742	1
13.06	R	R	1943	1	11.91	R	R	731	1
13.05	R	R	1804	1	11.86	R	R	721	1
					11.81	R	R	710	1

## HUANCAYO, PERU

GEOGRAPHIC LATITUDE = 12.03 S

GEOGRAPHIC LONGITUDE = 283.12 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-1.11	13.84	110	10	13.32	R	R	1528	1
19.00	.67	20.45	121	10	13.31	R	R	1475	1
18.00	2.86	28.44	124	10	13.30	R	R	1434	1
17.00	5.60	38.54	129	10	13.29	R	R	1400	1
16.00	9.02	52.13	135	10	13.28	R	R	1370	1
15.00	12.92	72.64	147	10	13.27	R	R	1344	1
14.90	13.26	75.44	149	10	13.26	R	R	1320	1
14.80	13.63	78.34	151	10	13.25	R	R	1298	1
14.70	13.94	81.55	153	10	13.24	R	R	1277	1
14.60	14.20	84.95	155	10	13.23	R	R	1258	1
14.50	14.41	88.64	157	10	13.22	R	R	1239	1
14.40	14.54	92.68	160	10	13.21	R	R	1222	1
14.30	14.55	97.13	163	10	13.20	R	R	1206	1
14.20	14.41	102.04	166	10	13.19	R	R	1189	1
14.10	14.07	107.54	170	10	13.18	R	R	1174	1
14.00	13.43	113.76	174	10	13.17	R	R	1160	1
13.90	12.37	120.90	175	10	13.16	R	R	1146	1
13.80	10.71	129.52	186	10	13.15	R	R	1134	1
13.70	8.15	140.01	194	10	13.10	R	R	1078	1
13.60	4.21	153.81	205	10	13.05	R	R	1035	1
13.50	-1.75	174.74	312	9	13.00	R	R	999	1
13.49	-2.47	177.61	1421	1	12.95	R	R	969	1
13.48	-3.21	180.71	1437	1	12.90	R	R	943	1
13.47	-3.95	184.04	1455	1	12.85	R	R	919	1
13.46	-4.64	187.74	1474	1	12.80	R	R	898	1
13.45	-5.42	191.84	1495	1	12.75	R	R	878	1
13.44	-6.10	196.47	1520	1	12.70	R	R	859	1
13.43	-6.75	201.66	1547	1	12.65	R	R	842	1
13.42	-7.25	207.64	1574	1	12.60	R	R	824	1
13.41	-7.54	214.66	1616	1	12.55	R	R	809	1
13.40	-7.53	223.16	1662	1	12.50	R	R	793	1
13.39	-7.02	233.86	1720	1	12.45	R	R	778	1
13.38	-5.73	248.30	1794	1	12.40	R	R	764	1
13.37	-3.53	270.64	1926	1	12.35	R	R	751	1
13.36	-5.13	324.47	2244	1	12.30	R	R	738	1
13.35	N	N	1987	1	12.25	R	R	725	1
13.34	N	N	1713	1	12.20	R	R	714	1
13.33	N	N	1600	1	12.15	R	R	703	1
					12.10	R	R	691	1

C278

## INVERCARGILL, NEW ZEALAND

GEOGRAPHIC LATITUDE = 46.50 S

GEOGRAPHIC LONGITUDE = 168.37 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-23.34	215.63	106	10	1.97	R	R	6142	1
19.00	-21.50	216.15	106	10	1.96	R	R	1459	1
18.00	-19.57	216.63	107	10	1.95	R	R	1482	1
17.00	-17.54	217.01	107	10	1.94	R	R	6037	1
16.00	-15.47	217.34	108	10	1.93	-3.70	735.82	3895	1
15.00	-13.37	217.56	108	10	1.92	6.08	1575.84	13102	1
14.00	-11.35	217.70	108	10	1.91	-2.42	769.42	4954	1
13.00	-9.50	217.80	154	9	1.90	17.82	818.56	4396	2
12.00	-7.97	217.88	154	9	1.89	-16.31	666.64	4218	1
11.00	-6.90	218.12	201	8	1.88	R	R	3115	1
10.00	-6.34	218.79	245	7	1.87	7.78	1196.70	10237	:
9.00	-6.23	220.45	246	7	1.86	-4.09	976.01	6253	1
8.00	-5.61	223.92	291	6	1.85	10.69	503.40	1995	:
7.00	-2.69	229.84	352	5	1.84	F	F	15001	1
6.00	3.85	237.61	359	5	1.83	R	R	2107	1
5.00	9.12	244.78	507	4	1.82	0.89	1098.21	8208	1
4.00	8.84	255.67	593	3	1.81	-10.81	641.74	3285	1
3.00	5.84	284.78	643	3	1.80	-7.82	648.62	4198	1
2.90	4.51	287.79	713	2	1.79	R	R	2787	1
2.80	3.07	292.04	720	2	1.78	12.26	1529.96	14167	1
2.70	1.17	298.17	730	2	1.77	F	F	15001	1
2.60	-2.03	306.57	746	2	1.76	11.49	1195.29	11010	1
2.50	-7.37	317.13	770	2	1.75	R	R	1755	1
2.40	-14.20	329.45	799	2	1.74	R	R	4040	1
2.30	-19.55	343.36	832	2	1.73	F	F	15001	1
2.20	-20.82	349.51	1031	1	1.72	R	R	6972	1
2.19	-20.64	342.70	1037	1	1.71	R	R	3188	1
2.18	-20.36	345.87	1044	1	1.70	R	R	13617	1
2.17	-19.99	347.58	1050	1	1.69	R	R	2361	1
2.16	-19.49	370.32	1057	1	1.68	R	R	9330	1
2.15	-18.82	373.30	1065	1	1.67	R	R	2915	1
2.14	-17.98	376.86	1074	1	1.66	F	F	15001	1
2.13	-16.82	380.14	1084	1	1.65	R	R	12349	1
2.12	-15.33	384.10	1096	1	1.64	F	F	15001	:
2.11	-13.37	388.52	1110	1	1.63	R	R	5595	1
2.10	-10.79	393.47	1125	1	1.62	F	F	15001	1
2.09	-7.33	399.13	1145	1	1.61	R	R	1714	1
2.08	-2.66	405.72	1169	1	1.60	F	F	15001	1
2.07	3.71	413.80	1200	1	1.59	F	F	15001	1
2.06	12.47	424.77	1243	1	1.58	F	F	15001	1
2.05	23.83	443.54	1310	1	1.57	F	F	15001	1
2.04	24.11	441.34	1453	1	1.56	R	R	2266	1
2.03	12.15	554.42	2400	1	1.55	F	F	15001	1
2.02	-14.43	1029.85	6938	1	1.50	F	F	15001	1
2.01	17.21	461.76	1746	1	1.45	R	R	11959	1
2.00	-14.16	686.23	3630	1	1.40	R	R	1898	1
1.99	-2.32	442.17	2299	1	1.35	F	F	15001	1
1.98	-13.39	548.07	3547	1	1.30	F	F	15001	1

INVERCARGILL, NEW ZEALAND (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 46.50 S

GEOGRAPHIC LONGITUDE = 168.37 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT LONG		NSTEP SS	P	ASYMPTOTIC LAT LONG		NSTEP SS
1.25	R	R	11962 1	0.85	R	R	3092 1
1.20	F	F	15001 1	0.80	R	R	3825 1
1.15	F	F	15001 1	0.75	R	R	1649 1
1.10	F	F	15001 1	0.70	R	R	1763 1
1.05	F	F	15001 1	0.65	R	R	1831 1
1.00	R	R	12215 1	0.60	R	R	1883 1
0.95	R	R	7100 1	0.55	R	R	1980 1
0.90	F	F	15001 1	0.50	R	R	2159 1

C286

## KAMPALA, UGANDA

GEOGRAPHIC LATITUDE = 0.33 N

GEOGRAPHIC LONGITUDE = 32.56 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT LONG		NSTEP SS	P	ASYMPTOTIC LAT LONG		NSTEP SS
20.00	10.97	135.78	123 10	14.89	R	R	1276 1
19.00	10.34	145.37	127 10	14.88	R	R	1254 1
18.00	8.90	157.73	133 10	14.87	R	R	1232 1
17.00	5.85	174.93	142 10	14.86	R	R	1214 1
16.00	-0.78	203.53	161 10	14.85	R	R	1196 1
15.90	-1.79	207.81	164 10	14.84	R	R	1181 1
15.80	-2.89	212.58	167 10	14.83	R	R	1165 1
15.70	-4.08	217.98	171 10	14.82	R	R	1151 1
15.60	-5.35	224.19	176 10	14.81	R	R	1138 1
15.50	-6.71	231.52	181 10	14.80	R	R	1125 1
15.40	-8.10	240.46	188 10	14.79	R	R	1113 1
15.30	-9.44	251.93	198 10	14.78	R	R	1102 1
15.20	-10.44	267.83	211 10	14.73	R	R	1053 1
15.10	-10.22	293.70	233 10	14.68	R	R	1012 1
15.09	-10.04	297.42	1494 1	14.63	R	R	978 1
15.08	-9.80	301.51	1517 1	14.58	R	R	949 1
15.07	-9.50	306.03	1542 1	14.53	R	R	923 1
15.06	-9.13	311.10	1571 1	14.48	R	R	899 1
15.05	-8.65	316.87	1604 1	14.43	R	R	879 1
15.04	-8.05	323.57	1642 1	14.38	R	R	859 1
15.03	-7.27	331.54	1688 1	14.33	R	R	841 1
15.02	-6.24	341.42	1746 1	14.28	R	R	824 1
15.01	-4.75	354.44	1823 1	14.23	R	R	809 1
15.00	-2.25	373.59	1937 1	14.18	R	R	794 1
14.99	4.19	410.91	2162 1	14.13	R	R	781 1
14.98	R	R	2037 1	14.08	R	R	767 1
14.97	R	R	1768 1	14.03	R	R	755 1
14.96	R	R	1584 1	14.00	R	R	114 10
14.95	R	R	1505 1	13.98	R	R	743 1
14.94	R	R	1447 1	13.93	R	R	732 1
14.93	R	R	1401 1	13.88	R	R	721 1
14.92	R	R	1363 1	13.83	R	R	711 1
14.91	R	R	1331 1	13.78	R	R	701 1
14.90	R	R	1302 1	13.73	R	R	692 1

## KENGUELEN ISLANDS

GEOGRAPHIC LATITUDE = 49.35 S

GEOGRAPHIC LONGITUDE = 70.22 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-15.3A	86.90	105	10	1.25	-4.85	361.31	1861	1
19.00	-14.00	86.61	105	10	1.24	13.15	501.54	3254	1
18.00	-12.59	86.26	105	10	1.23	0.11	403.57	2468	1
17.00	-11.17	85.83	105	10	1.22	R	R	1/27	1
16.00	-9.74	85.34	106	10	1.21	R	R	4800	1
15.00	-8.3A	84.75	106	10	1.20	-11.28	1396.03	12362	1
14.00	-7.12	84.12	106	10	1.19	4.65	587.16	3555	1
13.00	-6.04	83.47	151	9	1.18	-8.33	365.37	2191	1
12.00	-5.24	82.86	151	9	1.17	5.9A	848.32	5095	1
11.00	-4.80	82.47	197	8	1.16	18.49	433.38	2618	1
10.00	-4.72	82.54	240	7	1.15	9.65	497.30	2418	1
9.00	-4.77	83.49	241	7	1.14	12.09	407.17	2163	1
8.00	-4.14	85.80	285	6	1.13	F	F	15001	1
7.00	-1.13	89.61	343	5	1.12	2.49	907.37	7244	1
6.00	6.12	93.73	348	5	1.11	R	R	11275	1
5.00	14.90	95.80	488	4	1.10	-1.41	1624.58	14533	1
4.00	16.35	9A.55	566	3	1.09	F	F	15001	1
3.00	28.15	114.60	595	3	1.08	R	R	9115	1
2.90	28.51	115.81	660	2	1.07	F	F	15001	1
2.80	28.35	116.84	664	2	1.06	R	R	8345	1
2.70	27.95	118.08	667	2	1.05	F	F	15001	1
2.60	27.74	120.07	671	2	1.04	R	R	6013	1
2.50	28.1A	123.34	675	2	1.03	F	F	15001	1
2.40	29.35	128.17	682	2	1.02	F	F	15001	1
2.30	30.60	134.80	682	2	1.01	R	R	14182	1
2.20	30.79	140.10	783	2	1.00	F	F	15001	1
2.10	29.88	144.19	714	2	0.99	F	F	15001	1
2.00	27.85	146.91	724	2	0.98	R	R	2885	1
1.90	26.35	151.84	738	2	0.97	F	F	15001	1
1.80	23.68	161.89	785	2	0.96	F	F	15001	1
1.70	16.83	173.82	788	2	0.95	F	F	15001	1
1.60	9.98	179.47	884	2	0.94	R	R	4928	1
1.50	2.84	190.23	994	1	0.93	R	R	3845	1
1.40	-19.13	221.08	1098	1	0.92	R	R	5599	1
1.39	-21.04	226.00	1112	1	0.91	F	F	15001	1
1.38	-22.48	231.24	1127	1	0.90	F	F	15001	1
1.37	-23.36	236.77	1143	1	0.89	R	R	6928	1
1.36	-23.67	242.41	1158	1	0.88	R	R	3846	1
1.35	-23.42	248.11	1173	1	0.87	F	F	15001	1
1.34	-22.84	253.91	1189	1	0.86	F	F	15001	1
1.33	-21.38	259.94	1206	1	0.85	R	R	5702	1
1.32	-19.4A	266.44	1224	1	0.84	R	R	4313	1
1.31	-16.80	274.08	1246	1	0.83	F	F	15001	1
1.30	-12.76	283.63	1274	1	0.82	R	R	14267	1
1.29	-6.30	297.23	1315	1	0.81	R	R	2876	1
1.28	3.80	322.03	1340	1	0.80	R	R	3326	1
1.27	-14.05	344.89	6997	1	0.79	R	R	3830	1
1.26	8.91	430.67	2621	1	0.78	R	R	4606	1

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KERGUELEN ISLANDS (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 49.35 S GEOGRAPHIC LONGITUDE = 70.22 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
0.17	H	R	5906	1	0.07	R	R	14151	1
0.12	R	R	8298	1	0.02	F	F	15001	1



## KIEL, GERMANY

GEOGRAPHIC LATITUDE = 54.33 N

GEOGRAPHIC LONGITUDE = 10.13 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	24.65	57.45	106	10	2.61	-0.08	243.24	1173	1
19.00	22.65	57.91	107	10	2.60	-3.27	247.91	1189	1
18.00	20.51	58.30	107	10	2.59	-7.03	253.34	1204	1
17.00	18.25	58.67	108	10	2.58	-11.44	259.97	1232	1
16.00	15.87	58.98	108	10	2.57	-16.55	268.50	1261	1
15.00	13.41	59.26	109	10	2.56	-22.12	280.66	1300	1
14.00	10.94	59.50	109	10	2.55	-26.40	300.37	1359	1
13.00	8.53	59.73	156	9	2.54	-18.68	337.10	1474	1
12.00	6.34	59.99	157	9	2.53	R	R	6826	1
11.00	4.54	60.35	205	8	2.52	R	R	1760	1
10.00	3.34	61.02	250	7	2.51	23.99	447.87	3074	1
9.00	2.81	62.37	251	7	2.50	8.85	516.81	3641	1
8.00	2.61	65.16	298	6	2.49	-9.95	515.36	1797	1
7.00	1.24	70.60	359	5	2.48	2.37	393.19	2433	1
6.00	-3.83	80.02	366	5	2.47	-0.25	643.37	4929	1
5.00	-11.42	94.06	524	4	2.46	-17.24	654.00	5891	1
4.00	-9.29	109.49	630	3	2.45	-0.64	409.50	2454	1
3.90	-8.72	111.48	635	3	2.44	F	F	15001	1
3.80	-8.14	113.85	635	3	2.43	0.95	393.49	2993	1
3.70	-7.71	116.77	639	3	2.42	-9.70	1043.18	10240	1
3.60	-7.23	120.36	643	3	2.41	R	R	1416	1
3.50	-6.61	124.81	649	3	2.40	R	R	1389	1
3.40	-5.65	130.23	656	3	2.39	R	R	1415	1
3.30	-3.97	136.79	647	3	2.38	-12.50	1052.83	11567	1
3.20	-1.15	144.86	681	3	2.37	-1.98	682.73	6081	1
3.10	3.13	153.64	700	3	2.36	19.04	482.74	3180	1
3.00	8.69	164.32	705	2	2.35	F	F	15001	1
2.90	14.33	177.34	805	2	2.34	F	F	15001	1
2.81	17.42	191.97	1010	1	2.33	R	R	5154	1
2.80	17.83	193.80	1020	1	2.32	15.60	441.60	2826	1
2.79	17.84	195.67	1029	1	2.31	11.86	436.24	3311	1
2.78	17.84	197.89	1034	1	2.30	-13.25	646.24	4216	1
2.77	17.81	199.57	1040	1	2.29	R	R	4367	1
2.76	17.34	201.89	1046	1	2.28	R	R	2100	1
2.75	17.13	203.67	1051	1	2.27	4.27	919.83	10360	1
2.74	16.85	205.79	1056	1	2.26	2.34	522.57	4712	1
2.73	16.43	207.90	1062	1	2.25	R	R	6990	1
2.72	15.93	210.26	1069	1	2.24	R	R	9791	1
2.71	15.33	212.88	1075	1	2.23	R	R	1735	1
2.70	14.61	215.80	1083	1	2.22	-5.94	647.58	8265	1
2.69	13.77	217.44	1089	1	2.21	-2.34	754.26	7026	1
2.68	12.79	220.10	1097	1	2.20	F	F	15001	1
2.67	11.64	222.83	1106	1	2.19	R	R	11625	1
2.66	10.33	225.67	1114	1	2.18	-4.23	1110.38	6684	1
2.65	8.80	228.69	1124	1	2.17	17.60	822.52	6890	1
2.64	7.04	231.89	1134	1	2.16	F	F	15001	1
2.63	5.01	235.35	1146	1	2.15	R	R	13468	1
2.62	2.64	239.09	1158	1	2.14	F	F	15001	1

C284

XIEL, GERMANY (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 54.33 N

GEOGRAPHIC LONGITUDE = 10.13 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
2.13	R	R	3061	1	1.91	F	F	15001	1
2.12	F	F	15001	1	1.90	R	R	8768	1
2.11	F	F	15901	1	1.85	R	R	2957	1
2.10	F	F	15001	1	1.80	R	R	9222	1
2.09	F	F	15001	1	1.75	R	R	9023	1
2.08	F	F	15001	1	1.70	F	F	15001	1
2.07	F	F	15001	1	1.65	F	F	15001	1
2.06	R	R	10154	1	1.60	F	F	15001	1
2.05	R	R	4793	1	1.55	R	R	6640	1
2.04	F	F	15001	1	1.50	R	R	4970	1
2.03	R	R	7134	1	1.45	F	F	15001	1
2.02	R	R	3571	1	1.40	R	R	9094	1
2.01	R	R	1722	1	1.35	R	R	9461	1
2.00	R	R	1660	1	1.30	F	F	15001	1
1.99	R	R	1643	1	1.25	R	R	2405	1
1.98	R	R	1644	1	1.20	R	R	10682	1
1.97	R	R	1671	1	1.15	R	R	1357	1
1.96	R	R	1760	1	1.10	R	R	3122	1
1.95	F	F	15001	1	1.05	R	R	9647	1
1.94	R	R	7396	1	1.00	R	R	1358	1
1.93	F	F	15001	1	0.95	R	R	1490	1
1.92	R	R	8335	1	0.90	R	R	1448	1
					0.85	P	R	1474	1

## KIRUNA, SWEDEN

GEOGRAPHIC LATITUDE = 67.83 N      GEOGRAPHIC LONGITUDE = 20.43 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
20.00	47.92	00.10	103	10	0.63	13.42	196.77	1518	1
19.00	46.81	59.92	103	10	0.62	15.28	208.35	1569	1
18.00	45.60	59.67	104	10	0.61	14.98	220.80	1625	1
17.00	44.40	59.31	104	10	0.60	12.21	231.81	1679	1
16.00	43.24	58.85	104	10	0.59	4.62	246.69	1759	1
15.00	42.12	58.29	104	10	0.58	-26.30	301.82	1996	1
14.00	41.02	57.65	104	10	0.57	.39	334.62	2594	1
13.00	40.04	56.98	146	9	0.56	-3.72	371.29	3390	1
12.00	39.25	56.35	146	9	0.55	-9.28	596.62	8280	1
11.00	38.70	55.92	195	8	0.54	-5.92	563.37	6705	1
10.00	38.34	55.49	230	7	0.53	-6.58	913.28	8567	1
9.00	38.15	55.95	230	7	0.52	F	F	15001	1
8.00	37.30	59.20	279	6	0.51	-2.27	551.04	6264	1
7.00	34.75	62.40	335	5	0.50	F	F	15001	1
6.00	29.75	64.64	330	5	0.49	F	F	15001	1
5.00	25.08	64.10	469	4	0.48	F	F	15001	1
4.00	23.47	66.77	545	3	0.47	F	F	15001	1
3.00	14.99	70.50	560	3	0.46	F	F	15001	1
2.00	6.10	74.90	658	2	0.45	R	R	3391	1
1.90	3.75	81.40	660	2	0.44	F	F	15001	1
1.80	1.70	83.10	675	2	0.43	F	F	15001	1
1.70	1.32	84.20	685	2	0.42	F	F	15001	1
1.60	-0.02	87.05	690	2	0.41	F	F	15001	1
1.50	-3.01	90.01	645	1	0.40	F	F	15001	1
1.40	-3.54	91.90	805	1	0.39	F	F	15001	1
1.30	-6.17	96.79	690	1	0.38	F	F	15001	1
1.20	-7.20	100.22	920	1	0.37	F	F	15001	1
1.10	-9.74	107.25	965	1	0.36	F	F	15001	1
1.00	-10.51	114.40	1012	1	0.35	F	F	15001	1
0.90	-10.44	124.40	1081	1	0.34	F	F	15001	1
0.80	-7.88	140.05	1181	1	0.33	F	F	15001	1
0.70	1.45	162.80	1332	1	0.32	F	F	15001	1
0.69	2.45	165.60	1350	1	0.31	F	F	15001	1
0.60	4.04	170.01	1375	1	0.30	F	F	15001	1
0.67	6.45	175.39	1401	1	0.25	F	F	15001	1
0.60	8.88	180.40	1430	1	0.20	F	F	15001	1
0.65	10.49	184.49	1455	1	0.15	R	R	7490	1
0.64	11.68	189.09	1482	1	0.10	R	R	10985	1
					0.05	F	F	15001	1

C286

## LAE, NEW GUINEA

GEOGRAPHIC LATITUDE = 6.73 S

GEOGRAPHIC LONGITUDE = 147.00 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP SS	P	ASYMPTOTIC LAT	LONG	NSTEP SS
20.00	4.02	260.26	129 10	15.32	R	R	1359 1
19.00	2.74	270.87	135 10	15.31	R	R	1329 1
18.00	-0.35	284.79	143 10	15.30	R	R	1302 1
17.00	-7.03	305.21	156 10	15.29	R	R	1278 1
16.90	-7.99	307.92	158 10	15.28	R	R	1256 1
16.80	-9.02	310.82	160 10	15.27	R	R	1236 1
16.70	-10.11	313.97	163 10	15.26	R	R	1218 1
16.60	-11.27	317.35	165 10	15.25	R	R	1201 1
16.50	-12.47	321.07	168 10	15.24	R	R	1185 1
16.40	-13.71	325.17	171 10	15.23	R	R	1170 1
16.30	-14.96	329.76	175 10	15.22	R	R	1156 1
16.20	-16.17	334.93	179 10	15.21	R	R	1143 1
16.10	-17.24	340.85	183 10	15.20	R	R	1131 1
16.00	-18.04	347.77	189 10	15.19	R	R	1119 1
15.90	-18.28	355.95	195 10	15.18	R	R	1070 1
15.80	-17.46	365.87	204 10	15.09	R	R	1028 1
15.70	-14.58	378.10	215 10	15.04	R	R	994 1
15.60	-7.52	393.84	230 10	15.00	R	R	149 10
15.50	9.03	417.73	257 10	14.99	R	R	964 1
15.49	11.61	421.30	1643 1	14.94	R	R	938 1
15.48	14.41	425.36	1671 1	14.89	R	R	913 1
15.47	17.41	430.09	1703 1	14.84	R	R	891 1
15.46	20.55	435.74	1739 1	14.79	R	R	870 1
15.45	23.68	442.74	1781 1	14.74	R	R	852 1
15.44	26.45	451.73	1831 1	14.69	R	R	834 1
15.43	27.97	463.67	1894 1	14.64	R	R	817 1
15.42	28.13	479.73	1978 1	14.59	R	R	802 1
15.41	15.68	501.11	2105 1	14.54	R	R	787 1
15.40	-15.65	541.31	2388 1	14.49	R	R	774 1
15.39	R	R	2481 1	14.44	R	R	762 1
15.38	R	R	1639 1	14.39	R	R	750 1
15.37	R	R	1823 1	14.34	R	R	739 1
15.36	R	R	1610 1	14.29	R	R	728 1
15.35	R	R	1800 1	14.24	R	R	718 1
15.34	R	R	1648 1	14.19	R	R	708 1
15.33	R	R	1396 1	14.14	R	R	699 1

## LEEDS, ENGLAND

GEOGRAPHIC LATITUDE = 53.82 N

GEOGRAPHIC LONGITUDE = 358.45 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	25.6A	47.07	106	10	2.34	R	R	1838	1
19.00	23.6A	47.56	107	10	2.33	1.08	371.14	2518	1
18.00	21.49	47.98	107	10	2.32	-12.41	314.58	1817	1
17.00	19.19	48.36	108	10	2.31	-9.17	355.75	2437	1
16.00	16.76	48.68	108	10	2.30	17.71	423.83	3427	1
15.00	14.25	48.94	109	10	2.29	-C.03	597.27	4925	1
14.00	11.71	49.15	109	10	2.28	F	F	15001	1
13.00	9.23	49.33	156	9	2.27	R	R	1459	1
12.00	6.46	49.50	157	9	2.26	R	R	1397	1
11.00	5.09	49.73	205	8	2.25	R	R	1426	1
10.00	3.84	50.21	250	7	2.24	-10.06	629.50	6281	1
9.00	3.36	51.29	252	7	2.23	R	R	9099	1
8.00	3.33	53.71	297	6	2.22	2.75	510.51	4432	1
7.00	2.35	58.71	358	5	2.21	R	R	5636	1
6.00	-2.44	67.52	364	5	2.20	19.52	440.31	3215	1
5.00	-10.59	80.23	520	4	2.19	R	R	8310	1
4.00	-10.00	43.42	622	3	2.18	F	F	15001	1
3.90	-9.53	95.06	624	3	2.17	F	F	15001	1
3.80	-9.12	97.03	626	3	2.16	-10.80	335.45	2030	1
3.70	-8.80	99.47	629	3	2.15	4.96	495.34	3167	:
3.60	-8.56	102.48	632	3	2.14	F	F	15001	1
3.50	-8.33	106.22	637	3	2.13	F	F	15001	1
3.40	-7.98	110.77	643	3	2.12	R	R	8962	1
3.30	-7.24	116.20	651	3	2.11	-4.16	985.63	10404	1
3.20	-5.73	122.51	662	3	2.10	R	R	6239	1
3.10	-3.08	129.57	675	3	2.09	R	R	8684	1
3.00	0.82	137.16	760	2	2.08	R	R	1733	1
2.90	5.65	145.13	780	2	2.07	R	R	1770	1
2.80	10.48	153.54	801	2	2.06	9.88	811.04	8043	1
2.70	14.33	162.73	821	2	2.05	R	R	9642	1
2.60	16.72	174.11	845	2	2.04	F	F	15001	1
2.51	17.21	189.58	1039	1	2.03	F	F	15001	1
2.50	17.05	191.98	1046	1	2.02	R	R	9288	1
2.49	16.83	194.48	1058	1	2.01	F	F	15001	1
2.48	16.51	197.14	1059	1	2.00	F	F	15001	1
2.47	16.04	200.88	1067	1	1.99	F	F	15001	1
2.46	15.47	203.28	1076	1	1.98	R	R	11424	1
2.45	14.67	206.78	1084	1	1.97	F	F	15001	1
2.44	13.61	210.63	1095	1	1.96	F	F	15001	1
2.43	12.21	214.89	1107	1	1.95	F	F	15001	1
2.42	10.35	219.65	1121	1	1.94	R	R	2269	1
2.41	7.89	225.00	1137	1	1.93	F	F	15001	1
2.40	4.60	231.16	1157	1	1.92	F	F	15001	1
2.39	0.17	238.46	1182	1	1.91	R	R	13382	1
2.38	-5.85	247.62	1214	1	1.90	F	F	15001	1
2.37	-14.04	260.48	1259	1	1.89	F	F	15001	1
2.36	-23.87	283.45	1333	1	1.88	R	R	8361	1
2.35	-10.48	346.57	1537	1	1.87	R	R	11358	1

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LEEDS, ENGLAND (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 53.82 N GEOGRAPHIC LONGITUDE = 358.45 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
1.86	F	F	15001	1	1.50	F	F	15001	1
1.85	F	F	15001	1	1.45	F	F	15001	1
1.84	F	F	15001	1	1.40	R	R	2246	1
1.83	R	R	1682	1	1.35	F	F	15001	1
1.82	R	R	1769	1	1.30	R	R	3399	1
1.81	F	F	15001	1	1.25	R	R	3410	1
1.80	R	R	9568	1	1.20	F	F	15001	1
1.79	F	F	15001	1	1.15	F	F	15001	1
1.78	R	R	2350	1	1.10	R	R	5595	1
1.77	F	F	15001	1	1.05	F	F	15001	1
1.75	R	R	6565	1	1.00	R	R	1420	1
1.70	F	F	15001	1	0.95	R	R	3698	1
1.65	R	R	2600	1	0.90	R	R	1504	1
1.60	R	R	14347	1	0.85	R	R	1536	1
1.55	R	R	5142	1	0.80	R	R	1553	1
					0.75	R	R	1643	1

## LEHWICK, SCOTLAND

GEOGRAPHIC LATITUDE = 60.15 N

GEOGRAPHIC LONGITUDE = 35A.85 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	36.44	43.74	105	10	1.16	F	F	15001	1
19.00	34.83	43.85	105	10	1.15	-12.77	684.28	6621	1
18.00	33.13	43.88	105	10	1.14	0.39	532.35	4751	1
17.00	31.35	43.82	106	10	1.13	R	R	1794	1
16.00	29.51	43.63	106	10	1.12	7.07	514.96	5160	1
15.00	27.63	43.33	106	10	1.11	6.16	1182.88	9088	1
14.00	25.79	42.93	107	10	1.10	-16.78	655.76	6354	1
13.00	24.04	42.39	151	9	1.09	R	R	5443	1
12.00	22.52	41.83	152	9	1.08	9.12	500.72	3665	1
11.00	21.36	41.31	198	8	1.07	R	R	2443	1
10.00	20.70	41.04	241	7	1.06	-5.43	736.96	5578	1
9.00	20.51	41.60	242	7	1.05	1.23	873.66	8363	1
8.00	20.32	43.52	286	6	1.04	R	R	2144	1
7.00	18.65	47.43	344	5	1.03	R	R	4233	1
6.00	13.26	52.47	348	5	1.02	F	F	15001	1
5.00	5.41	55.66	487	4	1.01	F	F	15001	1
4.00	3.38	58.72	568	3	1.00	F	F	15001	1
3.00	-6.39	72.13	593	3	0.99	R	R	11876	1
2.90	-6.72	73.05	655	2	0.98	F	F	15001	1
2.80	-6.67	74.01	659	2	0.97	F	F	15001	1
2.70	-6.49	75.31	662	2	0.96	F	F	15001	1
2.60	-6.60	77.35	667	2	0.95	F	F	15001	1
2.50	-7.37	80.24	672	2	0.94	R	R	2110	1
2.40	-8.82	84.05	678	2	0.93	F	F	15001	1
2.30	-10.33	88.19	687	2	0.92	R	R	6390	1
2.20	-11.01	91.86	696	2	0.91	F	F	15001	1
2.10	-10.84	94.61	706	2	0.90	F	F	15001	1
2.00	-9.70	97.47	718	2	0.89	R	R	10257	1
1.90	-9.53	102.76	726	2	0.88	F	F	15001	1
1.80	-9.23	111.16	764	2	0.87	R	R	6960	1
1.70	-6.64	119.15	766	2	0.86	R	R	13659	1
1.60	-3.68	128.89	786	2	0.81	F	F	15001	1
1.50	0.38	137.49	884	1	0.76	F	F	15001	1
1.40	10.27	187.04	1030	1	0.71	F	F	15001	1
1.30	16.84	179.66	1162	1	0.66	F	F	15001	1
1.29	16.88	184.18	1118	1	0.61	F	F	15001	1
1.28	17.14	189.64	1134	1	0.56	F	F	15001	1
1.27	17.22	196.33	1149	1	0.51	F	F	15001	1
1.26	16.47	204.47	1171	1	0.46	F	F	15001	1
1.25	14.19	214.38	1200	1	0.41	R	R	3164	1
1.24	9.14	226.33	1236	1	0.36	R	R	3164	1
1.23	-0.51	241.41	1286	1	0.31	R	R	3392	1
1.22	-17.61	265.26	1367	1	0.26	R	R	3991	1
1.21	-2.05	356.36	1689	1	0.21	R	R	4862	1
1.20	-1.06	348.78	2624	1	0.16	R	R	6322	1
1.19	-14.11	300.36	1816	1	0.11	R	R	9122	1
1.18	2.74	492.50	3178	1	0.06	F	F	15001	1
1.17	-8.78	623.53	6012	1	0.01	F	F	15001	1

## LONDON, ENGLAND

GEOGRAPHIC LATITUDE = 51.53 N

GEOGRAPHIC LONGITUDE = 359.91 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	21.64	50.28	107	10	2.87	R	R	3041	1
19.00	19.46	50.93	107	10	2.86	R	R	2712	1
18.00	17.12	51.58	108	10	2.85	R	R	3262	1
17.00	14.52	52.21	109	10	2.84	-3.64	600.17	6157	1
16.00	11.97	52.81	109	10	2.83	F	F	15001	1
15.00	9.21	53.41	110	10	2.82	18.02	479.27	4158	1
14.00	6.40	54.01	110	10	2.81	0.38	885.07	7186	1
13.00	3.65	54.66	158	9	2.80	R	R	5603	1
12.00	1.11	55.28	159	9	2.79	R	R	11658	1
11.00	-0.99	56.23	208	8	2.78	15.84	428.81	3556	1
10.00	-2.39	57.37	255	7	2.77	F	F	15001	1
9.00	-2.90	59.10	257	7	2.76	F	F	15001	1
8.00	-2.75	62.15	304	6	2.75	8.36	537.86	4175	1
7.00	-3.23	68.05	367	5	2.74	7.60	424.56	3059	1
6.00	-7.08	79.29	375	5	2.73	17.67	493.34	3029	1
5.00	-12.27	99.21	543	4	2.72	-10.52	356.15	2176	1
4.00	-2.74	123.36	671	3	2.71	5.41	577.43	4017	1
3.90	-1.37	126.12	675	3	2.70	-1.42	1314.21	13880	1
3.80	-0.	129.34	680	3	2.69	-16.80	649.37	6088	1
3.70	1.43	133.30	686	3	2.68	R	R	2143	1
3.60	3.07	138.32	693	3	2.67	R	R	12743	1
3.50	5.17	144.88	703	3	2.66	F	F	15001	1
3.40	8.09	153.72	718	3	2.65	R	R	6957	1
3.30	12.13	166.29	741	3	2.64	0.12	981.75	8567	1
3.20	16.42	186.13	779	3	2.63	R	R	9230	1
3.10	18.64	223.33	886	3	2.62	R	R	4954	1
3.09	7.82	229.98	1144	1	2.61	F	F	15001	1
3.08	4.86	238.24	1166	1	2.60	R	R	6220	1
3.07	-0.89	242.51	1193	1	2.59	R	R	8982	1
3.06	-7.41	251.43	1286	1	2.58	R	R	3478	1
3.05	-15.83	263.70	1272	1	2.57	R	R	10062	1
3.04	-25.28	288.83	1341	1	2.56	R	R	1763	1
3.03	-18.89	338.48	1497	1	2.55	R	R	1723	1
3.02	-8.98	416.18	2578	1	2.54	R	R	1732	1
3.01	-8.88	483.74	2861	1	2.53	R	R	1818	1
3.00	R	R	7088	1	2.52	F	F	15001	1
2.99	-13.41	318.23	1841	1	2.51	R	R	4129	1
2.98	11.27	393.77	3194	1	2.50	R	R	10026	1
2.97	-2.18	324.76	2182	1	2.49	R	R	11131	1
2.96	16.98	421.86	2992	1	2.48	F	F	15001	1
2.95	17.01	482.84	3171	1	2.47	R	R	3742	1
2.94	-2.13	642.28	5677	1	2.46	R	R	7459	1
2.93	R	R	1438	1	2.45	F	F	15001	1
2.92	R	R	1382	1	2.44	R	R	14225	1
2.91	R	R	1329	1	2.43	R	R	2274	1
2.90	R	R	1328	1	2.42	R	R	2963	1
2.89	R	R	1344	1	2.41	R	R	1731	1
2.88	R	R	1406	1	2.40	F	F	15001	1



LONDON, ENGLAND (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 51.53 N GEOGRAPHIC LONGITUDE = 359.91 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
2.23	F	F	15001	1	1.80	R	R	6281	1
2.18	R	R	9344	1	1.75	R	R	2960	1
2.15	R	R	1841	1	1.70	R	R	2183	1
2.13	F	F	15001	1	1.65	R	R	11798	1
2.10	F	F	15001	1	1.60	F	F	15001	1
2.05	R	R	11564	1	1.55	R	R	4228	1
2.00	R	R	7986	1	1.50	F	F	15001	1
1.95	F	F	15001	1	1.45	R	R	2360	1
1.90	R	R	6519	1	1.40	R	R	2739	1
1.85	R	R	14979	1	1.35	R	R	1248	1
					1.30	R	R	1245	1

## MACQUARIE ISLANDS

GEOGRAPHIC LATITUDE = 54.50 S

GEOGRAPHIC LONGITUDE = 158.90 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-40.23	196.56	103	10	2.01	2.24	224.40	774	1
19.00	-39.06	196.78	103	10	2.00	2.38	224.49	774	1
18.00	-37.84	196.92	104	10	1.99	2.51	224.59	775	1
17.00	-36.58	196.95	104	10	1.98	2.62	224.68	776	1
16.00	-35.30	196.87	104	10	1.97	2.71	224.77	777	1
15.00	-34.03	196.69	104	10	1.96	2.80	224.85	778	1
14.00	-32.83	196.41	104	10	1.95	2.87	224.92	778	1
13.00	-31.77	196.09	148	9	1.94	2.92	225.00	779	1
12.00	-30.91	195.79	148	9	1.93	2.97	225.10	780	1
11.00	-30.31	195.58	193	8	1.92	3.00	225.20	781	1
10.00	-29.96	196.35	235	7	1.91	3.03	225.29	782	1
9.00	-29.60	197.30	235	7	1.90	3.05	225.41	783	1
8.00	-28.51	199.71	279	6	1.89	3.06	225.53	784	1
7.00	-25.60	207.76	335	5	1.88	3.08	225.67	785	1
6.00	-20.79	207.60	338	5	1.87	3.09	225.82	786	1
5.00	-17.62	204.68	468	4	1.86	3.11	225.99	787	1
4.00	-14.55	209.36	541	3	1.85	3.15	226.16	787	1
3.00	-8.40	213.23	557	3	1.84	3.19	226.36	788	1
2.81	-6.76	215.48	728	1	1.83	3.24	226.60	790	1
2.80	-6.63	213.60	728	1	1.82	3.32	226.82	791	1
2.79	-6.49	215.73	729	1	1.81	3.40	227.09	792	1
2.78	-6.35	215.85	729	1	1.80	3.51	227.36	793	1
2.77	-6.22	215.98	730	1	1.79	3.64	227.65	794	1
2.76	-6.07	216.09	730	1	1.78	3.79	227.94	795	1
2.75	-5.92	216.19	730	1	1.77	3.96	228.26	797	1
2.74	-5.78	216.32	731	1	1.76	4.15	228.58	798	1
2.73	-5.63	216.43	732	1	1.75	4.36	228.90	800	1
2.72	-5.47	216.52	732	1	1.74	4.59	229.21	801	1
2.71	-5.32	216.64	733	1	1.73	4.82	229.55	803	1
2.70	-5.17	216.73	733	1	1.72	5.06	229.85	804	1
2.69	-5.01	216.82	733	1	1.71	5.30	230.16	806	1
2.68	-4.86	216.92	734	1	1.70	5.55	230.42	806	1
2.67	-4.71	217.00	734	1	1.69	5.79	230.71	808	1
2.66	-4.56	217.08	734	1	1.68	6.02	230.96	810	1
2.65	-4.41	217.16	735	1	1.67	6.22	231.22	812	1
2.64	-4.26	217.23	735	1	1.66	6.42	231.42	813	1
2.63	-4.12	217.32	736	1	1.65	6.59	231.62	814	1
2.62	-3.97	217.37	736	1	1.64	6.73	231.81	816	1
2.61	-3.84	217.45	737	1	1.63	6.85	231.98	817	1
2.60	-3.70	217.50	737	1	1.62	6.94	232.14	819	1
2.09	0.78	223.25	766	1	1.61	7.01	232.29	820	1
2.08	0.98	223.44	767	1	1.60	7.05	232.46	822	1
2.07	1.19	223.59	767	1	1.59	7.08	232.60	823	1
2.06	1.38	223.74	768	1	1.58	7.08	232.80	825	1
2.05	1.57	223.91	770	1	1.57	7.10	232.96	826	1
2.04	1.76	224.03	770	1	1.56	7.10	233.18	828	1
2.03	1.9	224.15	771	1	1.55	7.11	233.42	829	1
2.02	2.09	224.28	773	1	1.54	7.13	233.71	831	1

## MACQUARIE ISLANDS (CONTINUED) - PAGE 2)

GEOGRAPHIC LATITUDE = 54.50 S

GEOGRAPHIC LONGITUDE = 158.90 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
1.53	7.18	234.03	833	1	1.05	11.56	259.21	985	1
1.52	7.26	234.36	835	1	1.04	11.39	259.77	990	1
1.51	7.36	234.74	836	1	1.03	11.24	260.42	994	1
1.50	7.50	235.15	838	1	1.02	11.12	261.27	1000	1
1.49	7.66	235.62	841	1	1.01	11.06	262.30	1006	1
1.48	7.87	236.09	843	1	1.00	11.02	263.52	1012	1
1.47	8.10	236.55	845	1	0.99	10.97	264.86	1019	1
1.46	8.35	237.02	847	1	0.98	10.87	266.17	1026	1
1.45	8.61	237.50	849	1	0.97	10.69	267.37	1033	1
1.44	8.87	237.98	852	1	0.96	10.42	268.39	1040	1
1.43	9.12	238.41	854	1	0.95	10.09	269.24	1047	1
1.42	9.34	238.83	857	1	0.94	9.74	270.00	1054	1
1.41	9.55	239.18	859	1	0.93	9.42	270.83	1061	1
1.40	9.70	239.54	862	1	0.92	9.14	271.86	1067	1
1.39	9.82	239.84	864	1	0.91	8.87	273.23	1075	1
1.38	9.90	240.13	867	1	0.90	8.55	274.88	1084	1
1.37	9.94	240.36	868	1	0.89	8.12	276.67	1094	1
1.36	9.94	240.63	871	1	0.88	7.57	278.34	1103	1
1.35	9.93	240.89	873	1	0.87	6.92	279.77	1113	1
1.34	9.91	241.16	875	1	0.86	6.28	280.89	1122	1
1.33	9.89	241.50	878	1	0.85	5.67	281.97	1132	1
1.32	9.90	241.88	880	1	0.84	5.15	283.19	1141	1
1.31	9.92	242.36	883	1	0.83	4.55	284.92	1151	1
1.30	10.00	242.87	886	1	0.82	3.77	287.11	1163	1
1.29	10.12	243.47	889	1	0.81	2.73	289.50	1177	1
1.28	10.30	244.09	891	1	0.80	1.53	291.85	1190	1
1.27	10.50	244.79	893	1	0.79	0.35	293.40	1203	1
1.26	10.73	245.49	895	1	0.78	-0.61	294.87	1215	1
1.25	10.97	246.17	902	1	0.77	-1.52	296.64	1228	1
1.24	11.19	246.82	905	1	0.76	-2.45	299.13	1243	1
1.23	11.37	247.44	909	1	0.75	-4.25	302.30	1260	1
1.22	11.49	248.02	913	1	0.74	-6.26	305.64	1279	1
1.21	11.57	248.49	916	1	0.73	-8.22	308.84	1298	1
1.20	11.58	248.93	920	1	0.72	-9.72	310.94	1315	1
1.19	11.55	249.30	923	1	0.71	-11.09	313.81	1334	1
1.18	11.48	249.67	926	1	0.70	-13.01	318.05	1356	1
1.17	11.40	250.11	930	1	0.69	-15.71	323.67	1384	1
1.16	11.34	250.57	933	1	0.68	-18.40	329.59	1415	1
1.15	11.30	251.16	937	1	0.67	-20.19	334.70	1442	1
1.14	11.32	251.89	941	1	0.66	-21.37	340.47	1471	1
1.13	11.34	252.72	946	1	0.65	-22.56	349.82	1511	1
1.12	11.51	253.64	950	1	0.64	-22.21	363.87	1568	1
1.11	11.66	254.61	955	1	0.63	-17.76	378.79	1634	1
1.10	11.79	255.59	960	1	0.62	-9.12	392.92	1706	1
1.09	11.88	256.50	965	1	0.61	13.76	419.70	1847	1
1.08	11.91	257.33	970	1	0.60	-5.98	677.20	4474	1
1.07	11.85	258.05	975	1	0.59	9.06	459.80	2713	1
1.06	11.73	258.66	980	1	0.58	5.76	533.96	3599	1

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MACQUARIE ISLANDS (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 34.50 S GEOGRAPHIC LONGITUDE = 158.90 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
0.58	5.76	533.96	3599	1	0.46	F	F	15001	1
0.57	7.15	899.58	11604	1	0.45	F	F	15001	1
0.56	12.23	507.74	3554	1	0.44	F	F	15001	1
0.55	6.10	855.27	9923	1	0.43	F	F	15001	1
0.54	F	F	15001	1	0.42	F	F	15001	1
0.53	F	F	15001	1	0.41	F	F	15001	1
0.52	F	F	15001	1	0.40	F	F	15001	1
0.51	F	F	15001	1	0.39	F	F	15001	1
0.50	F	F	15001	1	0.38	F	F	15001	1
0.49	F	F	15001	1	0.37	F	F	15001	1
0.48	F	F	15001	1	0.32	F	F	15001	1
0.47	R	N	3305	1	0.27	F	F	15001	1
					0.22	F	F	15001	1

## MEXICO CITY, MEXICO

GEOGRAPHIC LATITUDE = 19.35 N      GEOGRAPHIC LONGITUDE = 200.82 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS
20.00	-20.04	-28.03	115	10	10.16	-10.01	131.04	2197	1
19.00	-22.22	-23.40	117	10	10.15	-12.30	137.94	2234	1
18.00	-24.27	-17.90	119	10	10.14	-12.79	145.64	2275	1
17.00	-25.90	-11.35	121	10	10.13	-10.82	153.63	2320	1
16.00	-26.87	-7.20	125	10	10.12	-6.37	161.30	2360	1
15.00	-26.13	6.69	130	10	10.11	.19	168.72	2418	1
14.00	-22.35	18.30	135	10	10.10	7.57	174.85	2469	1
13.00	-13.12	31.33	204	9	10.09	14.54	181.32	2517	1
12.00	5.55	46.40	224	9	10.08	20.03	188.03	2563	1
11.90	8.15	48.34	292	8	10.07	R	R	1333	1
11.80	10.90	50.30	295	8	10.06	R	R	1322	1
11.70	13.81	52.63	300	8	10.05	R	R	1315	1
11.60	16.80	55.15	304	8	10.04	R	R	1310	1
11.50	20.04	58.04	309	8	10.03	R	R	1305	1
11.40	23.31	61.43	315	8	10.02	R	R	1301	1
11.30	26.59	65.46	321	8	10.01	R	R	1299	1
11.20	29.74	70.47	329	8	10.00	R	R	1297	1
11.10	32.54	76.67	337	8	9.99	R	R	1296	1
11.00	34.55	84.45	347	8	9.98	R	R	1295	1
10.90	35.00	94.04	356	8	9.97	R	R	1296	1
10.80	32.92	105.34	372	8	9.96	R	R	1297	1
10.70	26.47	117.60	391	8	9.95	R	R	1299	1
10.60	13.34	130.40	410	8	9.94	R	R	1303	1
10.50	-9.30	147.10	549	7	9.93	R	R	1309	1
10.40	-6.70	206.92	678	7	9.92	R	R	1323	1
10.39	6.43	219.44	2114	1	9.91	.32	150.26	2380	1
10.38	21.14	241.21	2260	1	9.90	-3.38	148.81	2340	1
10.37	-2.90	210.30	2579	1	9.89	-5.66	141.78	2304	1
10.36	36.24	456.20	4397	1	9.88	-5.62	135.29	2272	1
10.35	4.80	402.84	4134	1	9.87	-6.53	129.47	2245	1
10.34	-24.93	208.90	2400	1	9.86	-5.69	124.43	2222	1
10.33	-31.10	204.20	2862	1	9.85	-4.36	120.20	2201	1
10.32	-5.20	302.25	3092	1	9.84	-2.76	116.83	2186	1
10.31	17.81	377.44	4273	1	9.83	-1.05	114.34	2173	1
10.30	-12.03	314.44	3087	1	9.82	.70	112.77	2164	1
10.29	-3.94	232.43	2553	1	9.81	2.50	112.16	2157	1
10.28	24.90	202.04	2353	1	9.80	4.36	112.61	2156	1
10.27	26.08	172.94	2240	1	9.79	6.35	114.23	2157	1
10.26	18.83	152.73	2160	1	9.78	8.55	117.15	2162	1
10.25	11.77	138.54	2120	1	9.77	10.99	121.63	2173	1
10.24	6.99	128.07	2080	1	9.76	13.59	126.02	2188	1
10.23	4.34	120.63	2064	1	9.75	16.00	130.97	2213	1
10.22	3.17	116.00	2050	1	9.74	17.20	149.53	2250	1
10.21	2.30	114.14	2073	1	9.73	14.57	167.35	2308	1
10.20	1.21	114.52	687	7	9.72	1.49	194.40	2417	1
10.19	-7.72	116.73	2110	1	9.71	4.80	340.38	3139	1
10.18	-3.50	120.37	2140	1	9.70	-3.66	274.10	3256	1
10.17	-6.80	125.10	2160	1	9.69	-14.37	364.39	4137	1

MEXICO CITY, MEXICO (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 19.35 N GEOGRAPHIC LONGITUDE = 260.82 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS
9.50	K	K	2105	1	9.20	3.70	153.55	2037	1
9.67	K	K	2083	1	9.19	3.37	150.66	2025	1
9.60	K	K	2122	1	9.18	3.11	148.14	2014	1
9.65	8.61	209.37	3048	1	9.17	2.93	145.96	2006	1
9.54	K	K	2567	1	9.16	2.83	144.05	1998	1
9.63	K	K	4093	1	9.15	2.79	142.42	1990	1
9.62	-0.27	157.25	2787	1	9.14	2.79	141.02	1985	1
9.61	-0.47	167.84	2770	1	9.13	2.83	139.83	1980	1
9.60	K	K	1733	1	9.12	2.89	138.84	1976	1
9.59	K	K	1701	1	9.11	2.97	138.04	1973	1
9.50	K	K	1682	1	9.10	3.05	137.41	1970	1
9.57	K	K	1685	1	9.09	3.14	136.95	1969	1
9.50	K	K	1691	1	9.08	3.22	136.65	1968	1
9.55	K	K	1694	1	9.07	3.29	136.51	1967	1
9.54	K	K	1698	1	9.06	3.35	136.51	1968	1
9.50	K	K	1702	1	9.05	3.39	136.66	1968	1
9.52	K	K	1708	1	9.04	3.40	136.96	1969	1
9.51	K	K	1715	1	9.03	3.38	137.40	1971	1
9.50	K	K	1723	1	9.02	3.34	137.99	1974	1
9.45	K	K	1733	1	9.01	3.25	138.73	1978	1
9.43	K	K	1745	1	9.00	3.12	139.61	1982	1
9.47	K	K	1754	1	8.99	2.94	140.05	1986	1
9.40	K	K	1775	1	8.98	2.72	141.86	1992	1
9.45	K	K	1792	1	8.97	R	R	800	1
9.44	K	K	1812	1	8.96	R	R	830	1
9.45	K	K	1837	1	8.95	R	R	823	1
9.42	K	K	1865	1	8.94	R	R	818	1
9.41	K	K	1907	1	8.93	R	R	814	1
9.40	K	K	2721	1	8.92	R	R	810	1
9.39	2.91	343.41	4285	1	8.91	R	R	807	1
9.36	-14.44	264.30	3123	1	8.90	R	R	803	1
9.37	-7.36	245.12	3015	1	8.89	R	R	800	1
9.30	-12.57	337.50	3497	1	8.88	R	R	797	1
9.35	K	K	2752	1	8.87	R	R	794	1
9.34	-7.60	351.92	3752	1	8.86	R	R	792	1
9.35	K	K	2430	1	8.85	R	R	790	1
9.32	K	K	2463	1	8.84	R	R	787	1
9.31	K	K	3514	1	8.83	R	R	784	1
9.30	-21.15	304.45	2743	1	8.82	R	R	783	1
9.29	3.44	254.82	2406	1	8.81	R	R	780	1
9.20	9.12	211.10	2295	1	8.80	R	R	777	1
9.27	0.74	196.19	2220	1	8.79	R	R	776	1
9.20	4.94	165.47	2174	1	8.78	R	R	774	1
9.25	7.80	177.27	2143	1	8.77	R	R	772	1
9.24	0.60	170.71	2113	1	8.72	R	R	763	1
9.25	5.70	155.31	2084	1	8.67	R	R	755	1
9.22	4.81	160.77	2064	1	8.62	R	R	747	1
9.21	4.24	156.84	2051	1	8.57	R	R	740	1

MEXICO CITY, MEXICO (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 19.35 N GEOGRAPHIC LONGITUDE = 260.82 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
8.52	R	R	734	1	8.07	R	R	691	1
8.47	R	R	729	1	8.02	R	R	687	1
8.42	R	R	722	1	7.97	R	R	684	1
8.37	R	R	717	1	7.92	R	R	681	1
8.32	R	R	712	1	7.87	R	R	678	1
8.27	R	R	708	1	7.82	R	R	675	1
8.22	R	R	703	1	7.77	R	R	672	1
8.17	R	R	699	1	7.72	R	R	670	1
8.12	R	R	695	1	6.88	R	R	275	5

C208

## MINA AGUILAR, ARGENTINA

GEOGRAPHIC LATITUDE = 23.10 S

GEOGRAPHIC LONGITUDE = 294.30 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	3.15	13.35	114	10	12.07	R	R	1186	1
19.00	5.71	12.43	117	10	12.06	R	R	1190	1
18.00	8.59	24.52	119	10	12.05	R	R	1476	1
17.00	11.80	32.08	122	10	12.04	R	R	1534	1
16.00	15.22	41.96	127	10	12.03	R	R	1604	1
15.00	18.34	55.71	133	10	12.02	-13.04	246.30	2804	1
14.00	19.32	76.73	143	10	12.01	R	R	2678	1
13.90	19.10	79.49	145	10	12.00	R	R	2408	1
13.80	16.80	82.43	147	10	11.99	R	R	1093	1
13.70	18.38	85.53	149	10	11.98	R	R	1075	1
13.60	17.83	88.83	151	10	11.97	R	R	1060	1
13.50	17.12	92.35	215	9	11.96	R	R	1046	1
13.40	16.23	96.14	219	9	11.95	R	R	1035	1
13.30	15.12	100.23	223	9	11.94	R	R	1024	1
13.20	13.76	104.66	226	9	11.93	R	R	1013	1
13.10	12.09	109.54	231	9	11.92	R	R	1004	1
13.00	10.06	114.95	236	9	11.91	R	R	995	1
12.90	7.59	121.09	243	9	11.90	R	R	986	1
12.80	4.61	128.21	250	9	11.89	R	R	978	1
12.70	1.05	136.88	260	9	11.88	R	R	971	1
12.60	-3.05	148.06	272	9	11.87	R	R	963	1
12.50	-7.18	164.20	291	9	11.86	R	R	956	1
12.40	-8.14	192.38	323	9	11.85	R	R	950	1
12.39	-7.63	196.61	1474	1	11.84	R	R	943	1
12.38	-6.90	201.32	1499	1	11.83	R	R	936	1
12.37	-5.90	206.61	1527	1	11.82	R	R	930	1
12.36	-4.88	212.65	1559	1	11.81	R	R	925	1
12.35	-2.87	219.70	1597	1	11.76	R	P	898	1
12.34	-0.73	228.20	1644	1	11.71	R	R	875	1
12.33	1.74	238.99	1704	1	11.66	R	R	855	1
12.32	4.84	253.84	1788	1	11.61	R	R	836	1
12.31	3.44	277.84	1923	1	11.56	R	R	820	1
12.30	-16.57	339.88	2308	1	11.51	R	R	804	1
12.29	R	R	1909	1	11.46	R	R	789	1
12.28	R	R	1786	1	11.41	R	R	776	1
12.27	R	R	2137	1	11.36	R	R	763	1
12.26	4.41	368.33	3021	1	11.31	R	R	751	1
12.25	R	R	1498	1	11.26	R	R	740	1
12.24	R	R	1437	1	11.21	R	R	729	1
12.23	R	R	1398	1	11.16	R	R	719	1
12.22	R	R	1363	1	11.11	R	R	708	1
12.21	R	R	1338	1	11.06	R	R	699	1
12.20	R	R	1313	1	11.01	R	R	690	1
12.19	R	R	1293	1	10.96	R	R	681	1
12.18	R	R	1283	1	10.91	R	R	673	1
12.17	R	R	1197	1	10.86	R	R	664	1
12.16	R	R	1192	1	10.81	R	R	656	1
12.15	R	R	1188	1	10.76	R	R	648	1



## MINNEAPOLIS, UNITED STATES

GEOGRAPHIC LATITUDE = 44.97 N

GEOGRAPHIC LONGITUDE = 266.77 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	15.57	-01.74	105	10	1.43	10.23	533.60	5270	1
19.00	13.88	-01.64	105	10	1.42	-5.05	619.22	7590	1
18.00	12.10	-01.60	106	10	1.41	-3.29	1331.05	14474	1
17.00	10.24	-01.60	106	10	1.40	-3.15	275.73	2758	1
16.00	8.31	-01.81	106	10	1.39	R	R	8221	1
15.00	6.35	-02.05	107	10	1.38	R	R	14246	1
14.00	4.41	-02.41	107	10	1.37	-5.55	959.33	10272	1
13.00	2.50	-02.85	152	9	1.36	F	F	15001	1
12.00	.94	-03.26	152	9	1.35	-9.35	702.46	5934	1
11.00	-.30	-03.65	199	8	1.34	F	F	15001	1
10.00	-1.20	-03.64	242	7	1.33	F	F	15001	1
9.00	-1.92	-02.80	245	7	1.32	R	R	2093	1
8.00	-2.84	-00.75	287	6	1.31	F	F	15001	1
7.00	-5.67	-06.85	340	5	1.30	F	F	15001	1
6.00	-11.97	-51.81	351	5	1.29	F	F	15001	1
5.00	-19.30	-47.65	492	4	1.28	F	F	15001	1
4.00	-21.55	-41.39	574	3	1.27	F	F	15001	1
3.00	-28.37	-21.00	600	3	1.26	F	F	15001	1
2.90	-27.90	-19.35	670	2	1.25	F	F	15001	1
2.80	-27.42	-17.25	674	2	1.24	F	F	15001	1
2.70	-26.95	-14.35	678	2	1.23	F	F	15001	1
2.60	-26.57	-10.24	684	2	1.22	F	F	15001	1
2.50	-26.07	-4.84	693	2	1.21	F	F	15001	1
2.40	-24.87	1.21	704	2	1.20	F	F	15001	1
2.30	-22.55	6.71	710	2	1.19	R	R	5861	1
2.20	-19.52	10.90	720	2	1.18	R	R	1888	1
2.10	-16.35	14.81	741	2	1.17	F	F	15001	1
2.00	-12.37	21.02	755	2	1.16	R	R	14000	1
1.90	-4.94	30.99	781	2	1.15	F	F	15001	1
1.80	7.10	42.80	810	2	1.14	F	F	15001	1
1.70	18.31	55.92	859	2	1.09	F	F	15001	1
1.60	28.14	66.51	929	2	1.04	R	R	2091	1
1.59	28.39	93.10	1117	1	1.00	R	R	9270	1
1.50	27.80	101.10	1137	1	0.99	R	R	12873	1
1.57	25.75	110.60	1161	1	0.94	R	R	4122	1
1.50	21.24	121.89	1192	1	0.89	R	R	5322	1
1.55	12.65	135.64	1234	1	0.84	F	F	15001	1
1.54	-2.49	155.40	1301	1	0.79	R	R	2772	1
1.55	-13.90	214.10	1465	1	0.74	F	F	19001	1
1.52	-14.85	258.24	2049	1	0.69	F	F	15001	1
1.51	8.70	174.05	1794	1	0.64	F	F	15001	1
1.50	4.72	612.50	4580	1	0.59	F	F	15001	1
1.49	8.39	101.75	2202	1	0.54	R	R	5277	1
1.40	13.02	205.65	2540	1	0.49	R	R	2330	1
1.47	-26.31	300.54	3235	1	0.44	R	R	2429	1
1.40	R	R	1645	1	0.39	R	R	2709	1
1.45	R	R	1794	1	0.34	R	R	3008	1
1.44	-10.07	747.80	7705	1	0.29	R	R	3449	1

0300

MINNEAPOLIS, UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 44.97 N GEOGRAPHIC LONGITUDE = 266.77 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS
0.24	R	R	4107	1	0.19	R	R	5120	1
					0.14	R	R	6881	1

## MOSCOW, U.S.S.R.

GEOGRAPHIC LATITUDE = 55.47 N

GEOGRAPHIC LONGITUDE = 37.32 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	24.25	80.77	106	10	2.61	-24.89	337.06	1390	1
19.00	22.40	81.12	106	10	2.60	9.94	390.53	1599	1
18.00	20.44	81.45	107	10	2.59	9.48	489.03	2710	1
17.00	18.38	81.72	107	10	2.58	-2.31	425.41	2667	1
16.00	16.25	81.98	108	10	2.57	-6.88	1316.30	12338	1
15.00	14.07	82.19	108	10	2.56	0.53	351.18	1832	1
14.00	11.50	82.40	109	10	2.55	0.17	363.89	1878	1
13.00	9.83	82.64	155	9	2.54	-3.01	769.18	5969	1
12.00	7.96	82.95	156	9	2.53	-0.65	344.78	2060	1
11.00	6.43	83.44	203	8	2.52	12.48	526.83	3960	1
10.00	5.35	84.36	248	7	2.51	-8.16	927.35	7597	1
9.00	4.64	86.10	249	7	2.50	22.12	440.22	3627	1
8.00	3.76	87.42	295	6	2.49	-3.28	579.97	5377	1
7.00	1.20	95.30	357	5	2.48	R	R	1397	1
6.00	-5.01	104.67	365	5	2.47	R	R	1359	1
5.00	-11.78	117.96	522	4	2.46	R	R	1356	1
4.00	-9.62	133.77	624	3	2.45	R	R	1402	1
3.90	-9.26	136.27	627	3	2.44	F	F	15001	1
3.80	-8.93	139.26	630	3	2.43	F	F	15001	1
3.70	-8.58	142.89	635	3	2.42	6.95	534.37	4039	1
3.60	-8.10	147.30	641	3	2.41	1.67	565.86	4153	1
3.50	-7.28	152.60	649	3	2.40	-9.71	1076.78	9929	1
3.40	-5.84	158.84	659	3	2.39	-0.	543.76	3742	1
3.30	-3.42	166.22	672	3	2.38	14.45	425.37	2707	1
3.20	0.21	174.64	688	3	2.37	F	F	15001	1
3.10	4.98	184.45	788	3	2.36	8.33	1115.54	9954	1
3.00	10.03	196.81	807	2	2.35	F	F	15001	1
2.90	13.67	210.17	840	2	2.34	R	R	2183	1
2.81	13.60	226.22	1040	1	2.33	R	R	3859	1
2.80	13.27	228.28	1046	1	2.32	R	R	8021	1
2.79	12.86	230.40	1052	1	2.31	-2.58	954.55	7720	1
2.78	12.36	232.60	1058	1	2.30	-8.37	677.39	5638	1
2.77	11.76	234.89	1066	1	2.29	R	R	1699	1
2.76	11.05	237.27	1072	1	2.28	R	R	1862	1
2.75	10.21	239.76	1079	1	2.27	R	R	5231	1
2.74	9.23	242.37	1087	1	2.26	F	F	15001	1
2.73	8.09	245.12	1096	1	2.25	R	R	4039	1
2.72	6.77	248.03	1105	1	2.24	F	F	15001	1
2.71	5.24	251.12	1114	1	2.23	R	R	5961	1
2.70	3.44	254.45	1125	1	2.22	R	R	7607	1
2.69	1.38	258.08	1138	1	2.21	F	F	15001	1
2.68	-1.02	262.86	1151	1	2.20	F	F	15001	1
2.67	-3.84	268.82	1166	1	2.19	-7.37	1387.62	11196	1
2.66	-7.15	271.64	1184	1	2.18	R	R	2924	1
2.65	-11.04	277.76	1206	1	2.17	R	R	11341	1
2.64	-15.55	285.40	1232	1	2.16	R	R	14906	1
2.63	-20.58	295.71	1266	1	2.15	R	R	2208	1
2.62	-25.24	311.12	1313	1	2.14	F	F	15001	1

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MOSCOW, U.S.S.R. (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 55.47 N GEOGRAPHIC LONGITUDE = 37.32 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
2.13	R	R	9586	1	1.85	F	F	15001	1
2.12	F	F	15001	1	1.80	F	F	15001	1
2.11	F	F	15001	1	1.75	R	R	13425	1
2.10	F	F	15001	1	1.70	R	R	2842	1
2.09	F	F	15001	1	1.65	F	F	15001	1
2.08	R	R	4142	1	1.60	F	F	15001	1
2.07	F	F	15001	1	1.55	F	F	15001	1
2.06	F	F	15001	1	1.50	F	F	15001	1
2.05	R	R	1672	1	1.45	R	R	10569	1
2.04	R	R	1631	1	1.40	R	R	2363	1
2.03	R	R	1618	1	1.35	F	F	15001	1
2.02	R	R	1626	1	1.30	F	F	15001	1
2.01	R	R	1676	1	1.25	R	R	2482	1
2.00	F	F	15001	1	1.20	R	R	5374	1
1.99	F	F	15001	1	1.15	R	R	3120	1
1.98	F	F	15001	1	1.10	R	R	5179	1
1.97	F	F	15001	1	1.05	R	R	1406	1
1.96	F	F	15001	1	1.00	R	R	1355	1
1.95	F	F	15001	1	0.95	R	R	1504	1
1.90	R	R	6702	1	0.90	R	R	1386	1

## MT. NORIKURA, JAPAN

GEOGRAPHIC LATITUDE = 36.12 N      GEOGRAPHIC LONGITUDE = 137.56 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-14.14	214.40	118	10	11.76	32.80	426.95	2489	1
19.00	-17.85	219.20	120	10	11.95	15.60	400.04	2353	1
18.00	-21.50	225.20	125	10	11.94	R	R	1367	1
17.00	-25.05	233.31	127	10	11.93	R	R	1333	1
16.00	-27.40	244.22	131	10	11.92	R	R	1310	1
15.00	-27.22	259.20	130	10	11.91	R	R	1291	1
14.00	-20.70	279.20	150	10	11.90	R	R	1273	1
13.90	-19.50	201.50	151	10	11.89	R	R	1259	1
13.80	-18.25	204.01	155	10	11.88	R	R	1246	1
13.70	-16.70	206.50	154	10	11.87	R	R	1235	1
13.60	-15.14	209.11	150	10	11.86	R	R	1225	1
13.50	-13.37	211.85	225	9	11.85	R	R	1215	1
13.40	-11.44	214.72	220	9	11.84	R	R	1207	1
13.30	-9.35	217.70	230	9	11.83	R	R	1198	1
13.20	-7.08	301.04	235	9	11.82	R	R	1191	1
13.10	-4.65	304.59	237	9	11.81	R	R	1185	1
13.00	-2.00	308.52	242	9	11.80	R	R	1178	1
12.90	.64	312.92	247	9	11.79	R	R	1172	1
12.80	3.45	317.90	255	9	11.78	R	R	1167	1
12.70	6.17	323.94	260	9	11.77	R	R	1162	1
12.60	8.65	331.10	269	9	11.76	R	R	1158	1
12.50	10.45	340.10	279	9	11.75	R	R	1154	1
12.40	10.79	351.05	295	9	11.74	R	R	1150	1
12.30	8.12	307.65	315	9	11.73	R	R	1147	1
12.20	-1.11	311.50	345	9	11.72	R	R	1143	1
12.19	-1.30	314.90	1565	1	11.71	R	R	1141	1
12.10	-2.54	318.51	1580	1	11.70	R	R	1138	1
12.17	-3.79	402.40	1604	1	11.69	R	R	1136	1
12.10	-5.01	406.87	1635	1	11.68	R	R	1135	1
12.15	-6.12	411.85	1664	1	11.67	R	R	1134	1
12.14	-7.02	417.50	1697	1	11.66	R	R	1133	1
12.15	-7.51	424.04	1735	1	11.65	R	R	1132	1
12.12	-7.27	431.74	1781	1	11.64	R	R	1131	1
12.11	-5.77	441.00	1837	1	11.63	R	R	1131	1
12.10	-2.12	452.50	1900	1	11.62	R	R	1132	1
12.09	5.10	407.90	2005	1	11.61	R	R	1133	1
12.00	17.40	494.14	2160	1	11.60	R	R	1133	1
12.07	-16.27	533.55	2730	1	11.59	R	R	1135	1
12.00	R	R	2520	1	11.58	R	R	1137	1
12.05	R	R	1887	1	11.57	R	R	1139	1
12.04	R	R	1770	1	11.56	R	R	1142	1
12.05	R	R	1735	1	11.55	R	R	1145	1
12.02	R	R	1737	1	11.54	R	R	1149	1
12.01	R	R	1805	1	11.53	R	R	1153	1
12.00	R	R	1965	1	11.52	R	R	1157	1
11.99	10.30	405.21	2967	1	11.51	R	R	1162	1
11.90	-21.45	402.25	3030	1	11.50	R	R	1168	1
11.97	5.77	476.07	2795	1	11.49	R	R	1174	1

MT. NURIKURA, JAPAN (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 35.12 ° GEOGRAPHIC LONGITUDE = 137.56 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
11.40	K	K	1180	1	11.00	R	R	1649	1
11.47	K	K	1187	1	10.99	R	R	1655	1
11.40	K	K	1194	1	10.98	R	R	1663	1
11.45	K	K	1202	1	10.97	R	R	1673	1
11.44	K	K	1210	1	10.96	R	R	1687	1
11.45	K	K	1219	1	10.95	R	R	1702	1
11.42	K	K	1227	1	10.94	R	R	1719	1
11.41	K	K	1230	1	10.93	R	R	1740	1
11.40	K	K	1240	1	10.92	R	R	1763	1
11.39	K	K	1250	1	10.91	R	R	1791	1
11.30	K	K	1260	1	10.90	R	R	1822	1
11.37	K	K	1277	1	10.89	R	R	1860	1
11.30	K	K	1280	1	10.88	R	R	1907	1
11.35	K	K	1300	1	10.87	R	R	1968	1
11.34	K	K	1312	1	10.86	R	R	2079	1
11.35	K	K	1284	1	10.85	R	R	2510	1
11.52	K	K	1279	1	10.84	R	R	2338	1
11.31	K	K	1276	1	10.83	14.64	570.71	3572	1
11.30	K	K	1280	1	10.82	11.16	493.64	2564	1
11.29	K	K	1285	1	10.81	26.68	450.46	2367	1
11.20	K	K	1292	1	10.80	24.76	435.31	2254	1
11.27	K	K	1302	1	10.79	19.80	422.34	2180	1
11.20	K	K	1310	1	10.78	14.79	413.50	2126	1
11.25	-1.55	370.20	2331	1	10.77	10.37	406.88	2083	1
11.24	2.30	373.21	2343	1	10.76	6.61	401.56	2047	1
11.25	7.24	379.30	2360	1	10.75	3.47	397.11	2018	1
11.22	12.55	390.27	2414	1	10.74	.85	393.27	1994	1
11.21	15.95	409.81	2494	1	10.73	-1.31	389.87	1972	1
11.20	7.70	450.65	2696	1	10.72	-3.09	386.85	1953	1
11.19	K	K	2040	1	10.71	-4.55	384.13	1937	1
11.18	K	K	2319	1	10.70	-5.74	381.68	1922	1
11.17	K	K	2194	1	10.69	-6.70	379.47	1910	1
11.10	K	K	2158	1	10.68	-7.47	377.48	1899	1
11.15	K	K	2200	1	10.67	-8.07	375.69	1889	1
11.14	K	K	2314	1	10.66	-8.53	374.08	1880	1
11.15	K	K	2754	1	10.65	-8.88	372.65	1872	1
11.12	6.37	541.69	3484	1	10.64	-9.11	371.39	1866	1
11.11	K	K	1752	1	10.63	-9.27	370.29	1859	1
11.10	K	K	1710	1	10.62	-9.35	369.34	1854	1
11.09	K	K	1685	1	10.61	-9.37	368.55	1850	1
11.00	K	K	1671	1	10.60	-9.33	367.90	1846	1
11.07	K	K	1662	1	10.59	-9.25	367.39	1843	1
11.00	K	K	1654	1	10.58	-9.14	367.03	1841	1
11.05	K	K	1649	1	10.57	-8.99	366.80	1839	1
11.04	K	K	1646	1	10.56	-8.81	366.70	1838	1
11.05	K	K	1643	1	10.55	-8.62	366.75	1838	1
11.02	K	K	1644	1	10.54	-8.41	366.93	1838	1
11.01	K	K	1644	1	10.53	-8.18	367.24	1840	1

MI. NURIKURA, JAPAN (CONTINUED - PAGE 3)

GEOGRAPHIC LATITUDE = 36.12 N GEOGRAPHIC LONGITUDE = 137.56 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
10.52	-7.95	307.70	1641	1	10.11	R	R	1650	1
10.51	-7.70	308.30	1644	1	10.10	R	R	1628	1
10.50	-7.46	309.04	1647	1	10.09	R	R	1610	1
10.49	-7.21	309.95	1650	1	10.08	R	R	1595	1
10.48	-6.96	310.94	1650	1	10.07	R	R	1581	1
10.47	-6.71	312.21	1660	1	10.06	R	R	1567	1
10.46	-6.46	313.60	1660	1	10.05	R	R	1555	1
10.45	-6.22	315.14	1674	1	10.04	R	R	1544	1
10.44	-5.97	316.98	1682	1	10.03	R	R	1535	1
10.43	-5.72	318.94	1691	1	10.02	R	R	1525	1
10.42	-5.47	321.25	1701	1	10.01	R	R	1514	1
10.41	-5.20	323.70	1713	1	10.00	R	R	1508	1
10.40	-4.90	326.65	1727	1	9.99	R	R	1500	1
10.39	-4.58	329.83	1742	1	9.98	R	R	1493	1
10.38	-4.15	333.45	1760	1	9.97	R	R	1487	1
10.37	-3.62	337.50	1780	1	9.96	R	R	1479	1
10.36	-2.91	342.24	2004	1	9.95	R	R	1475	1
10.35	-1.92	347.77	2034	1	9.94	R	R	1469	1
10.34	-0.50	344.25	2060	1	9.93	R	R	1463	1
10.33	1.54	342.04	2111	1	9.92	R	R	1458	1
10.32	4.77	342.01	2166	1	9.87	R	R	707	1
10.31	9.60	345.55	2248	1	9.82	R	R	698	1
10.30	16.67	347.51	2375	1	9.77	R	R	691	1
10.29	13.41	342.61	2460	1	9.72	R	R	684	1
10.28	N	N	2550	1	9.67	R	R	678	1
10.27	4.75	341.30	3190	1	9.62	R	R	674	1
10.26	N	N	2125	1	9.57	R	R	668	1
10.25	N	N	2051	1	9.52	R	R	664	1
10.24	N	N	2000	1	9.47	R	R	660	1
10.23	N	N	1970	1	9.42	R	R	656	1
10.22	N	N	1961	1	9.37	R	R	653	1
10.21	N	N	2061	1	9.32	R	R	649	1
10.20	N	N	2224	1	9.27	R	R	646	1
10.19	N	N	2310	1	9.22	R	R	643	1
10.18	N	N	2463	1	9.17	R	R	640	1
10.17	N	N	2604	1	9.12	R	R	637	1
10.16	N	R	2724	1	9.07	R	R	633	1
10.15	-4.12	312.65	3192	1	9.02	R	R	633	1
10.14	17.35	346.64	2652	1	8.97	R	R	630	1
10.13	15.84	339.25	2815	1	8.92	R	R	628	1
10.12	N	R	1682	1	8.87	R	R	626	1
					8.82	R	R	624	1

## MT. WASHINGTON, UNITED STATES

GEOGRAPHIC LATITUDE = 44.30 N      GEOGRAPHIC LONGITUDE = 288.70 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
20.00	20.05	-31.50	105	10	1.43	-24.31	339.47	2299	1
19.00	18.20	-31.11	106	10	1.42	-25.89	309.49	2432	1
18.00	16.39	-30.74	106	10	1.41	7.67	350.48	3409	1
17.00	14.39	-30.44	106	10	1.40	8.53	234.04	2636	1
16.00	12.20	-30.22	107	10	1.39	6.07	253.04	3189	1
15.00	10.10	-30.15	107	10	1.38	R	R	1649	1
14.00	7.91	-30.10	108	10	1.37	R	R	1669	1
13.00	5.70	-30.30	153	9	1.36	-15.83	282.50	3028	1
12.00	3.84	-30.67	153	9	1.35	.07	322.78	3566	1
11.00	2.25	-31.02	200	8	1.34	R	R	3064	1
10.00	1.10	-31.24	244	7	1.33	-12.83	612.62	6374	1
9.00	.64	-30.93	244	7	1.32	21.95	493.42	4236	1
8.00	.30	-29.30	280	6	1.31	-15.22	313.48	2769	1
7.00	-1.20	-25.72	340	5	1.30	20.39	430.02	3454	1
6.00	-6.10	-19.91	351	5	1.29	-11.38	250.71	2015	1
5.00	-13.70	-14.31	493	4	1.28	2.88	509.08	5394	1
4.00	-15.70	-9.37	575	3	1.27	-5.57	740.02	6993	1
3.00	-21.50	10.31	605	3	1.26	R	R	7830	1
2.90	-21.30	11.90	670	2	1.25	F	F	15001	1
2.80	-20.77	13.43	674	2	1.24	R	R	12380	1
2.70	-20.14	15.30	676	2	1.23	F	F	15001	1
2.60	-19.60	18.30	663	2	1.22	F	F	15001	1
2.50	-19.14	22.55	684	2	1.21	R	R	6593	1
2.40	-18.57	28.04	690	2	1.20	F	F	15001	1
2.30	-17.11	33.80	710	2	1.19	F	F	15001	1
2.20	-14.63	38.72	723	2	1.18	R	R	14381	1
2.10	-11.70	42.30	735	2	1.17	R	R	3089	1
2.00	-8.80	46.61	747	2	1.16	F	F	15001	1
1.90	-4.44	54.62	760	2	1.15	F	F	15001	1
1.80	4.22	66.24	797	2	1.14	F	F	15001	1
1.70	14.70	78.30	834	2	1.13	F	F	15001	1
1.60	22.67	94.04	877	2	1.12	R	R	1950	1
1.59	23.55	96.73	1044	1	1.11	F	F	15001	1
1.50	24.40	99.82	1053	1	1.10	F	F	15001	1
1.57	25.37	103.34	1062	1	1.09	R	R	7794	1
1.50	26.23	107.57	1073	1	1.08	F	F	15001	1
1.53	26.95	112.47	1085	1	1.07	F	F	15001	1
1.54	27.30	118.24	1094	1	1.06	R	R	3412	1
1.53	27.24	125.05	1110	1	1.01	F	F	15001	1
1.52	26.14	133.05	1130	1	1.00	F	F	15001	1
1.51	23.52	142.32	1160	1	0.96	F	F	15001	1
1.50	18.40	153.02	1191	1	0.91	F	F	15001	1
1.49	9.60	165.67	1231	1	0.86	R	R	9213	1
1.40	-4.72	183.15	1292	1	0.81	R	R	4142	1
1.47	-21.04	226.27	1415	1	0.76	R	R	3199	1
1.40	-4.09	305.23	2926	1	0.71	R	R	4934	1
1.43	-3.12	343.30	2912	1	0.66	F	F	15001	1
1.44	-9.13	220.65	1830	1	0.61	F	F	15001	1



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MT. WASHINGTON, UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 44.30 N GEOGRAPHIC LONGITUDE = 268.70 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC				P	ASYMPTOTIC			
	LAT	LONG	NSTEP	SS		LAT	LONG	NSTEP	SS
0.50	K	K	5192	1	0.31	R	R	3323	1
0.51	F	F	15001	1	0.26	R	R	3887	1
0.40	K	K	2397	1	0.21	R	R	4741	1
0.41	K	K	2603	1	0.16	R	R	6151	1
0.30	K	K	2903	1	0.11	R	R	8873	1
					0.06	F	F	15001	1

## MT. WELLINGTON, AUSTRALIA

GEOGRAPHIC LATITUDE = 42.92 S      GEOGRAPHIC LONGITUDE = 147.24 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-16.91	169.10	100	10	2.06	-11.57	578.87	2837	1
19.00	-15.12	169.65	100	10	2.05	-8.89	521.28	2046	1
18.00	-13.22	190.00	100	10	2.04	4.98	493.49	2204	1
17.00	-11.20	190.44	107	10	2.03	-6.67	511.31	2387	1
16.00	-9.25	190.74	107	10	2.02	-4.09	713.01	4859	1
15.00	-7.25	190.99	108	10	2.01	R	R	1587	1
14.00	-5.32	191.15	108	10	2.00	R	R	1430	1
13.00	-3.54	191.29	153	9	1.99	R	R	1449	1
12.00	-2.10	191.47	154	9	1.98	-23.17	667.84	4482	1
11.00	-1.10	191.84	201	8	1.97	5.09	578.16	3520	1
10.00	-.69	192.60	245	7	1.96	7.17	562.82	3504	1
9.00	-.45	194.54	245	7	1.95	5.25	606.41	3487	1
8.00	.40	198.19	291	6	1.94	24.33	1922.94	14427	1
7.00	3.59	204.10	351	5	1.93	-1.73	756.77	5805	1
6.00	9.93	211.97	359	5	1.92	-9.27	553.02	2866	1
5.00	14.20	219.35	507	4	1.91	-2.49	541.74	2855	1
4.00	13.70	231.55	595	3	1.90	7.31	455.93	1931	1
3.90	13.90	234.12	596	3	1.89	3.11	735.09	3993	1
3.80	14.25	237.04	600	3	1.88	13.45	798.14	5729	1
3.70	14.42	240.22	604	3	1.87	-3.86	1132.67	9383	1
3.60	14.39	243.59	610	3	1.86	10.00	879.29	6292	1
3.50	14.04	246.90	615	3	1.85	16.92	770.00	5350	1
3.40	13.20	250.20	622	3	1.84	-6.96	717.83	4347	1
3.30	12.09	253.15	626	3	1.83	16.88	840.67	6682	1
3.20	10.62	255.72	634	3	1.82	-3.01	536.45	3253	1
3.10	9.01	258.12	639	3	1.81	R	R	9521	1
3.00	7.35	260.72	706	2	1.80	R	R	1738	1
2.90	5.65	264.10	714	2	1.79	R	R	1805	1
2.80	3.50	268.87	722	2	1.78	F	F	15001	1
2.70	.51	275.54	735	2	1.77	F	F	15001	1
2.60	-4.34	284.24	753	2	1.76	R	R	6929	1
2.50	-11.54	294.80	779	2	1.75	R	R	4738	1
2.40	-19.54	307.45	811	2	1.74	F	F	15001	1
2.30	-24.87	323.35	840	2	1.73	F	F	15001	1
2.20	-24.42	346.20	894	2	1.72	F	F	15001	1
2.19	-23.72	349.52	1070	1	1.71	R	R	7781	1
2.10	-22.76	353.05	1080	1	1.70	F	F	15001	1
2.17	-21.53	356.89	1091	1	1.69	F	F	15001	1
2.10	-19.87	361.11	1105	1	1.68	F	F	15001	1
2.15	-17.60	365.77	1117	1	1.67	F	F	15001	1
2.14	-14.75	370.90	1134	1	1.66	F	F	15001	1
2.15	-10.82	376.80	1154	1	1.65	R	R	1793	1
2.12	-5.47	383.74	1181	1	1.64	R	R	1708	1
2.11	1.80	392.20	1214	1	1.63	F	F	15001	1
2.10	12.00	404.19	1265	1	1.62	F	F	15001	1
2.09	25.00	427.12	1344	1	1.61	F	F	15001	1
2.00	2.65	502.34	1605	1	1.56	R	R	14600	1
2.07	-5.24	593.74	3525	1	1.51	F	F	15001	1

MT. WELLINGTON, AUSTRALIA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 42.92 S GEOGRAPHIC LONGITUDE = 147.24 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS
1.40	F	F	15001	1	1.01	R	R	2844	1
1.41	K	K	8167	1	0.96	R	R	9250	1
1.30	K	K	2049	1	0.91	R	R	8103	1
1.31	F	F	15001	1	0.86	R	R	7340	1
1.20	F	F	15001	1	0.81	R	R	1783	1
1.21	K	K	11619	1	0.76	R	R	1631	1
1.10	K	K	3420	1	0.71	R	R	1739	1
1.11	F	F	15001	1	0.66	R	R	1816	1
1.00	K	K	6250	1	0.61	R	R	1867	1

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## OTTAWA, CANADA

GEOGRAPHIC LATITUDE = 45.40 N

GEOGRAPHIC LONGITUDE = 284.40 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	21.23	-38.51	105	10	1.25	-4.15	269.42	2369	1
19.00	19.56	-38.20	105	10	1.24	0.14	462.10	4023	1
18.00	17.78	-37.94	105	10	1.23	-4.10	263.09	2604	1
17.00	15.90	-37.77	106	10	1.22	0.39	489.07	5315	1
16.00	13.93	-37.72	106	10	1.21	R	R	1834	1
15.00	11.91	-37.78	106	10	1.20	R	R	1797	1
14.00	9.48	-37.97	107	10	1.19	-9.51	371.70	4302	1
13.00	7.93	-38.29	152	9	1.18	-6.05	258.33	2797	1
12.00	6.17	-38.73	152	9	1.17	17.67	484.60	4188	1
11.00	4.74	-39.20	198	8	1.16	10.18	413.55	4032	1
10.00	3.76	-39.46	242	7	1.15	-3.31	238.58	2212	1
9.00	3.24	-39.15	242	7	1.14	R	R	3209	1
8.00	2.73	-37.67	286	6	1.13	0.87	221.25	2013	1
7.00	0.88	-34.16	344	5	1.12	7.39	802.16	8094	1
6.00	-4.34	-29.26	348	5	1.11	-3.17	546.21	4187	1
5.00	-11.62	-25.41	487	4	1.10	8.42	1527.09	14208	1
4.00	-13.82	-21.31	567	3	1.09	R	R	5916	1
3.00	-21.74	-5.97	593	3	1.08	13.57	1183.24	11312	1
2.90	-21.75	-4.82	655	2	1.07	F	F	15001	1
2.80	-21.52	-3.49	659	2	1.06	F	F	15001	1
2.70	-21.31	-1.60	663	2	1.05	F	F	15001	1
2.60	-21.39	1.20	667	2	1.04	R	R	11186	1
2.50	-21.83	5.04	673	2	1.03	F	F	15001	1
2.40	-22.34	9.88	681	2	1.02	R	R	8323	1
2.30	-22.33	14.01	690	2	1.01	R	R	13475	1
2.20	-21.46	17.47	700	2	1.00	F	F	15001	1
2.10	-20.87	20.20	700	2	0.99	R	R	2392	1
2.00	-18.51	24.29	719	2	0.98	F	F	15001	1
1.90	-16.36	31.48	734	2	0.97	R	R	7933	1
1.80	-12.19	39.66	784	2	0.96	F	F	15001	1
1.70	-6.92	48.86	778	2	0.95	F	F	15001	1
1.60	-1.47	58.94	800	2	0.94	F	F	15001	1
1.50	10.59	68.41	1000	1	0.93	F	F	15001	1
1.40	23.95	79.04	1072	1	0.92	F	F	15001	1
1.39	24.74	91.57	1080	1	0.91	F	F	15001	1
1.38	25.59	94.38	1088	1	0.90	F	F	15001	1
1.37	26.35	97.64	1097	1	0.89	R	R	11959	1
1.36	27.04	101.48	1108	1	0.88	F	F	15001	1
1.35	27.63	106.06	1120	1	0.87	F	F	15001	1
1.34	27.97	111.69	1135	1	0.86	F	F	15001	1
1.33	27.80	118.56	1152	1	0.77	F	F	15001	1
1.32	26.61	127.84	1174	1	0.72	F	F	15001	1
1.31	23.56	137.42	1202	1	0.67	F	F	15001	1
1.30	17.11	150.10	1240	1	0.62	F	F	15001	1
1.29	4.74	166.50	1295	1	0.57	F	F	15001	1
1.28	-16.43	198.62	1401	1	0.52	F	F	15001	1
1.27	-14.45	242.53	2306	1	0.47	F	F	15001	1
1.26	8.74	488.38	3900	1	0.42	R	R	2677	1

OTTAWA, CANADA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 45.40 N GEOGRAPHIC LONGITUDE = 284.40 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
0.37	R	R	3028	1	0.17	R	R	5881	1
0.32	R	R	3252	1	0.12	R	R	8255	1
0.27	R	R	3808	1	0.07	R	R	14063	1
0.22	R	R	4602	1	0.02	F	F	15001	1

C312

OULU, FINLAND

GEOGRAPHIC LATITUDE = 65.03 N      GEOGRAPHIC LONGITUDE = 25.42 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	42.41	64.95	104	10	0.89	-26.98	313.58	1605	1
19.00	41.15	64.86	104	10	0.88	-9.22	363.45	2329	1
18.00	39.83	64.69	104	10	0.87	2.32	370.55	2331	1
17.00	38.47	64.42	104	10	0.86	0.08	420.02	3022	1
16.00	37.10	64.04	105	10	0.85	R	R	2054	1
15.00	35.73	63.63	105	10	0.84	-1.47	610.27	7912	1
14.00	34.42	63.11	105	10	0.83	8.06	860.92	7385	1
13.00	33.22	62.55	149	9	0.82	R	R	7058	1
12.00	32.21	62.01	149	9	0.81	-4.05	553.50	4194	1
11.00	31.47	61.68	195	8	0.80	R	R	4699	1
10.00	30.99	61.80	238	7	0.79	F	F	15001	1
9.00	30.60	62.76	238	7	0.78	F	F	15001	1
8.00	29.68	65.02	281	6	0.77	F	F	15001	1
7.00	26.97	68.48	338	5	0.76	F	F	15001	1
6.00	21.39	71.54	342	5	0.75	F	F	15001	1
5.00	15.63	72.15	476	4	0.74	F	F	15001	1
4.00	13.66	75.32	552	3	0.73	F	F	15001	1
3.00	3.80	82.38	573	3	0.72	F	F	15001	1
2.00	-4.95	97.98	679	2	0.71	F	F	15001	1
1.90	-7.00	101.92	689	2	0.70	F	F	15001	1
1.80	-8.96	105.76	702	2	0.69	R	R	2718	1
1.70	-9.12	108.46	714	2	0.68	F	F	15001	1
1.60	-9.44	112.75	728	2	0.67	F	F	15001	1
1.50	-10.96	120.18	886	1	0.66	F	F	15001	1
1.40	-10.10	125.73	912	1	0.65	F	F	15001	1
1.30	-9.50	135.07	948	1	0.64	F	F	15001	1
1.20	-6.00	146.08	995	1	0.63	F	F	15001	1
1.10	-0.28	163.28	1062	1	0.62	F	F	15001	1
1.00	9.23	186.98	1159	1	0.61	F	F	15001	1
0.99	10.75	191.87	1176	1	0.56	F	F	15001	1
0.98	12.36	197.64	1196	1	0.51	F	F	15001	1
0.97	13.78	204.10	1218	1	0.46	F	F	15001	1
0.96	14.63	211.02	1242	1	0.41	F	F	15001	1
0.95	14.65	218.01	1266	1	0.36	F	F	15001	1
0.94	13.77	224.86	1291	1	0.31	F	F	15001	1
0.93	12.03	231.72	1316	1	0.26	R	R	4227	1
0.92	9.23	239.50	1344	1	0.21	R	R	5094	1
0.91	4.20	250.80	1384	1	0.16	R	R	6559	1
0.90	-6.27	266.84	1448	1	0.11	R	R	9439	1

## RIO DE JANEIRO, BRAZIL

GEOGRAPHIC LATITUDE = 22.90 S

GEOGRAPHIC LONGITUDE = 316.78 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	9.24	26.27	112	10	11.42	R	R	1200	1
19.00	11.51	30.82	114	10	11.41	R	R	1190	1
18.00	13.95	36.28	116	10	11.40	R	R	1180	1
17.00	16.52	43.01	119	10	11.39	R	R	1172	1
16.00	19.01	51.61	122	10	11.38	R	R	1165	1
15.00	20.94	63.04	126	10	11.37	R	R	1159	1
14.00	21.03	79.03	133	10	11.36	R	R	1154	1
13.00	15.63	102.91	206	9	11.35	R	R	1150	1
12.90	14.48	106.00	209	9	11.34	R	R	1146	1
12.80	13.16	109.30	212	9	11.33	R	R	1144	1
12.70	11.66	112.80	215	9	11.32	R	R	1144	1
12.60	9.93	116.58	218	9	11.31	R	R	1145	1
12.50	7.94	120.70	222	9	11.30	R	R	1148	1
12.40	5.75	125.25	227	9	11.29	R	R	1152	1
12.30	3.24	130.33	232	9	11.28	R	R	1161	1
12.20	0.44	136.17	238	9	11.27	R	R	1174	1
12.10	-2.63	143.09	245	9	11.26	R	R	1192	1
12.00	-5.87	151.67	327	8	11.25	R	R	1214	1
11.90	-8.88	162.73	341	8	11.24	R	R	1240	1
11.80	-10.49	179.05	363	8	11.23	R	R	1283	1
11.70	-6.74	205.52	400	8	11.22	R	R	1293	1
11.69	-5.71	209.29	1433	1	11.21	R	R	1320	1
11.68	-4.48	213.43	1455	1	11.20	R	R	1348	1
11.67	-3.05	218.01	1480	1	11.19	R	R	1378	1
11.66	-1.41	223.15	1506	1	11.18	R	R	1412	1
11.65	0.44	229.08	1541	1	11.17	R	R	1451	1
11.64	2.47	235.97	1579	1	11.16	R	R	1519	1
11.63	4.52	244.40	1626	1	11.15	-5.71	219.09	2481	1
11.62	6.18	245.15	1686	1	11.14	-12.17	235.17	2512	1
11.61	6.26	249.83	1768	1	11.13	0.44	308.76	2851	1
11.60	1.86	248.21	1804	1	11.12	R	R	2364	1
11.59	-20.60	346.67	2846	1	11.11	R	R	2106	1
11.58	R	R	1951	1	11.10	-17.03	312.70	3394	1
11.57	R	R	1757	1	11.09	-8.73	351.50	3962	1
11.56	R	R	1754	1	11.08	-2.13	315.14	3125	1
11.55	R	R	1956	1	11.07	R	R	1758	1
11.54	R	R	2206	1	11.06	R	R	1731	1
11.53	9.94	340.54	2986	1	11.05	R	R	1720	1
11.52	-10.46	276.77	2409	1	11.04	R	R	1717	1
11.51	-20.41	321.41	2639	1	11.03	R	R	1719	1
11.50	R	R	2217	1	11.02	R	R	1731	1
11.49	R	R	1332	1	11.01	R	R	1740	1
11.48	R	R	1302	1	11.00	R	R	1776	1
11.47	R	R	1277	1	10.99	R	R	1814	1
11.46	R	R	1258	1	10.98	R	R	1868	1
11.45	R	R	1240	1	10.97	R	R	2768	1
11.44	R	R	1225	1	10.96	R	R	3658	1
11.43	R	R	1212	1	10.95	R	R	2822	1

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RIO DE JANEIRO, BRAZIL (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 22.90 S

GEOGRAPHIC LONGITUDE = 316.78 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
10.94	R	R	3536	1	10.70	R	R	788	1
10.93	R	R	2403	1	10.69	R	R	784	1
10.92	-8.68	343.03	2637	1	10.68	R	R	781	1
10.91	-16.04	286.51	2331	1	10.67	R	R	778	1
10.90	-11.82	266.32	2224	1	10.62	R	R	762	1
10.89	-8.20	255.65	2172	1	10.57	R	R	749	1
10.88	-5.72	249.50	2141	1	10.52	R	R	736	1
10.87	R	R	872	1	10.47	R	R	724	1
10.86	R	R	863	1	10.42	R	R	714	1
10.85	R	R	855	1	10.37	R	R	704	1
10.84	R	R	848	1	10.32	R	R	694	1
10.83	R	R	842	1	10.27	R	R	685	1
10.82	R	R	837	1	10.22	R	R	676	1
10.81	R	R	832	1	10.17	R	R	668	1
10.80	R	R	827	1	10.12	R	R	660	1
10.79	R	R	822	1	10.07	R	R	652	1
10.78	R	R	818	1	10.02	R	R	645	1
10.77	R	R	814	1	9.97	R	R	638	1
10.76	R	R	810	1	9.92	R	R	632	1
10.75	R	R	806	1	9.87	R	R	625	1
10.74	R	R	802	1	9.82	R	R	620	1
10.73	R	R	798	1	9.77	R	R	613	1
10.72	R	R	794	1	9.72	R	R	607	1
10.71	R	R	791	1	9.67	R	R	602	1
					9.62	R	R	596	1



## SACRAMENTO PEAK, UNITED STATES

GEOGRAPHIC LATITUDE = 32.72 N      GEOGRAPHIC LONGITUDE = 254.25 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-10.62	-59.58	110	10	5.03	R	R	1505	1
19.00	-13.30	-58.17	110	10	5.02	R	R	3128	1
18.00	-16.18	-56.54	111	10	5.01	-1.84	519.19	5144	1
17.00	-19.23	-54.76	113	10	5.00	-14.83	332.24	4824	1
16.00	-22.43	-52.62	114	10	4.99	-2.65	375.00	4104	1
15.00	-25.69	-50.04	115	10	4.98	13.37	484.87	4185	1
14.00	-28.86	-46.87	117	10	4.97	R	R	9910	1
13.00	-31.69	-42.92	168	9	4.96	3.52	380.60	3795	1
12.00	-33.77	-38.07	171	9	4.95	R	R	6199	1
11.00	-34.55	-32.37	226	8	4.94	R	R	7644	1
10.00	-33.53	-26.11	274	7	4.93	-7.24	530.23	6383	1
9.00	-30.42	-19.58	283	7	4.92	R	R	4919	1
8.00	-25.40	-11.88	340	6	4.91	-3.59	230.76	2414	1
7.00	-18.06	.72	414	5	4.90	-11.24	247.46	2470	1
6.00	.07	28.51	457	5	4.89	-13.11	314.96	3224	1
5.90	3.88	33.26	638	4	4.88	R	R	2463	1
5.80	8.42	38.86	652	4	4.87	R	R	2392	1
5.70	13.78	45.80	668	4	4.86	-14.55	265.12	3226	1
5.60	19.90	55.11	690	4	4.85	17.68	467.14	4855	1
5.50	26.08	69.04	721	4	4.84	R	R	7515	1
5.40	28.55	82.46	767	4	4.83	R	R	9160	1
5.30	9.26	133.40	861	4	4.82	R	R	3887	1
5.29	4.04	139.70	1321	1	4.81	R	R	1973	1
5.28	-2.17	147.45	1356	1	4.80	R	R	1789	1
5.27	-9.24	158.01	1401	1	4.79	R	R	1780	1
5.26	-15.76	174.78	1465	1	4.78	R	R	1788	1
5.25	-13.32	206.74	1577	1	4.77	R	R	1810	1
5.24	-21.82	330.00	2904	1	4.76	R	R	1844	1
5.23	-10.77	332.65	3171	1	4.75	R	R	1888	1
5.22	-18.07	254.62	2656	1	4.74	R	R	1937	1
5.21	4.27	317.59	3146	1	4.73	R	R	10478	1
5.20	13.10	186.72	2021	1	4.72	R	R	4817	1
5.19	-5.27	186.21	2030	1	4.71	R	R	9438	1
5.18	-15.30	876.31	6884	1	4.70	R	R	6148	1
5.17	16.46	182.91	2314	1	4.69	R	R	7940	1
5.16	-6.67	387.04	4131	1	4.68	R	R	2545	1
5.15	2.13	186.34	2423	1	4.67	R	R	8932	1
5.14	7.13	180.65	2734	1	4.66	R	R	5674	1
5.13	R	R	1453	1	4.65	R	R	3332	1
5.12	R	R	1432	1	4.64	R	R	12663	1
5.11	R	R	1412	1	4.63	R	R	15001	1
5.10	R	R	1397	1	4.62	R	R	6493	1
5.09	R	R	1386	1	4.61	R	R	3328	1
5.08	R	R	1385	1	4.60	R	R	6762	1
5.07	R	R	1384	1	4.59	R	R	3999	1
5.06	R	R	1403	1	4.58	-17.41	719.55	10426	1
5.05	R	R	1430	1	4.57	R	R	5817	1
5.04	R	R	1464	1	4.56	R	R	5283	1

## SACRAMENTO PEAK, UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 32.72 N GEOGRAPHIC LONGITUDE = 254.25 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
4.55	H	R	9270	1	4.12	R	R	1512	1
4.54	R	H	5101	1	4.09	R	R	1627	1
4.53	H	H	7350	1	4.07	R	R	1645	1
4.52	H	R	5254	1	4.04	R	R	2709	1
4.51	H	H	3260	1	4.02	R	R	4791	1
4.50	F	F	15001	1	4.00	R	R	1936	3
4.49	H	R	2518	1	3.99	R	R	3764	1
4.48	H	R	2518	1	3.97	R	R	6083	1
4.47	H	R	5542	1	3.94	R	R	2388	1
4.46	H	H	4956	1	3.92	R	R	2311	1
4.45	R	R	6350	1	3.89	R	R	5036	1
4.44	H	R	10339	1	3.87	R	R	8563	1
4.43	H	R	11513	1	3.84	R	R	8968	1
4.42	R	R	2908	1	3.82	R	R	2260	1
4.41	F	F	15001	1	3.79	R	R	2119	1
4.40	R	R	4493	1	3.77	R	R	5954	1
4.39	H	R	6969	1	3.74	R	R	3538	1
4.38	R	R	6606	1	3.72	R	R	8373	1
4.37	R	R	4589	1	3.69	R	R	8609	1
4.34	H	R	1847	1	3.67	R	R	8818	1
4.32	R	R	1710	1	3.64	F	F	15001	1
4.29	R	R	1656	1	3.62	R	R	4221	1
4.27	H	H	1634	1	3.59	R	R	7104	1
4.24	R	R	1612	1	3.57	F	F	15001	1
4.22	H	R	1604	1	3.52	R	R	6137	1
4.19	R	H	1598	1	3.47	F	F	15001	1
4.17	R	R	1599	1	3.42	R	R	1731	1
4.14	R	R	1605	1	3.37	R	R	11539	1
					2.56	R	R	829	2

## SANAE, ANTARCTICA

GEOGRAPHIC LATITUDE = 70.46 S

GEOGRAPHIC LONGITUDE = 357.91 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-31.77	23.14	106	10	1.03	R	R	1975	1
19.00	-29.99	22.31	106	10	1.02	R	R	5702	1
18.00	-28.11	21.33	106	10	1.01	-2.54	927.09	7153	1
17.00	-26.15	20.21	107	10	1.00	3.28	787.01	7701	1
16.00	-24.14	18.89	107	10	0.99	16.18	428.30	4074	1
15.00	-22.11	17.38	108	10	0.98	6.96	427.86	3780	1
14.00	-20.12	15.67	109	10	0.97	13.48	853.65	7320	1
13.00	-18.28	13.73	155	9	0.96	F	F	15001	1
12.00	-16.74	11.64	156	9	0.95	R	R	2354	1
11.00	-15.70	9.47	203	8	0.94	R	R	2454	1
10.00	-15.41	7.51	248	7	0.93	-4.30	1441.61	14741	1
9.00	-16.03	6.27	248	7	0.92	F	F	15001	1
8.00	-17.28	6.65	293	6	0.91	F	F	15001	1
7.00	-17.54	9.74	351	5	0.90	F	F	15001	1
6.00	-13.00	14.97	353	5	0.89	R	R	3587	1
5.00	-1.56	17.44	495	4	0.88	F	F	15001	1
4.00	4.26	15.58	583	3	0.87	F	F	15001	1
3.00	14.00	26.16	601	3	0.86	F	F	15001	1
2.00	28.23	47.72	726	2	0.85	R	R	10224	1
1.90	27.56	50.01	737	2	0.84	F	F	15001	1
1.80	26.99	53.27	747	2	0.83	F	F	15001	1
1.70	28.73	61.61	763	2	0.82	F	F	15001	1
1.60	28.67	73.95	789	2	0.81	F	F	15001	1
1.50	25.21	80.20	960	1	0.80	F	F	15001	1
1.40	22.64	90.41	994	1	0.79	F	F	15001	1
1.30	10.15	112.15	1068	1	0.78	R	R	9679	1
1.20	0.78	127.62	1135	1	0.77	R	R	2525	1
1.19	-0.70	130.91	1146	1	0.76	F	F	15001	1
1.18	-2.64	135.08	1160	1	0.75	F	F	15001	1
1.17	-5.04	140.36	1178	1	0.70	F	F	15001	1
1.16	-7.76	147.17	1200	1	0.68	R	R	2894	1
1.15	-10.34	146.82	1228	1	0.68	F	F	15001	1
1.14	-11.95	147.71	1263	1	0.68	F	F	15001	1
1.13	-10.57	143.30	1309	1	0.60	F	F	15001	1
1.12	-3.74	204.64	1373	1	0.48	F	F	15001	1
1.11	8.94	241.40	1486	1	0.40	R	R	5629	1
1.10	-1.45	316.24	3619	1	0.38	R	R	3573	1
1.09	-21.71	610.88	5345	1	0.30	R	R	3820	1
1.08	-2.31	249.30	1872	1	0.25	R	R	4425	1
1.07	-9.04	293.09	2410	1	0.20	R	R	5328	1
1.06	1.19	1136.47	9499	1	0.18	R	R	7022	1
1.05	-0.22	599.51	4816	1	0.10	R	R	10450	1
1.04	-3.84	349.63	3404	1	0.05	F	F	15001	1

## SOUTH POLE, ANTARCTICA

GEOGRAPHIC LATITUDE = 89.98 S      GEOGRAPHIC LONGITUDE = 0.00 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-83.58	7.27	104	10	1.50	-36.82	341.17	803	1
19.00	-82.74	5.23	104	10	1.40	-36.01	342.68	820	1
18.00	-81.90	3.05	104	10	1.30	-33.93	341.38	842	1
17.00	-81.07	.50	104	10	1.20	-32.98	342.64	866	1
16.00	-80.28	358.10	104	10	1.10	-31.71	341.67	898	1
15.00	-59.58	355.39	105	10	1.00	-29.18	341.59	938	1
14.00	-59.01	352.50	105	10	0.90	-27.01	341.78	989	1
13.00	-58.60	349.55	148	9	0.80	-25.18	342.22	1056	1
12.00	-58.61	346.67	148	9	0.70	-21.30	342.76	1148	1
11.00	-58.93	344.10	194	8	0.60	-17.81	343.09	1277	1
10.00	-59.65	342.50	235	7	0.50	-13.16	344.09	1467	1
9.00	-60.53	342.77	230	7	0.40	-7.66	345.77	1766	1
8.00	-60.70	345.40	278	6	0.30	1.85	349.20	2259	1
7.00	-58.93	348.99	333	5	0.20	10.39	358.97	3389	1
6.00	-54.72	348.62	335	5	0.10	-10.98	123.69	7845	1
5.00	-52.21	342.80	463	4	0.09	F	F	15001	1
4.00	-52.48	344.74	535	3	0.08	F	F	15001	1
3.00	-47.67	341.42	547	3	0.07	F	F	15001	1
2.00	-41.42	343.39	635	2	0.06	F	F	15001	1
1.90	-39.83	342.10	642	2	0.05	F	F	15001	1
1.80	-39.92	341.15	649	2	0.04	F	F	15001	1
1.70	-34.74	342.42	657	2	0.03	F	F	15001	1
1.60	-37.37	342.60	668	2	0.02	F	F	15001	1
					0.01	F	F	15001	1

## SULPHUR MOUNTAIN, CANADA

GEOGRAPHIC LATITUDE = 51.20 N

GEOGRAPHIC LONGITUDE = 244.39 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	19.86	-91.87	104	10	1.73	-23.74	-17.17	898	1
19.00	18.35	-92.10	105	10	1.72	-23.37	-16.59	901	1
18.00	16.79	-92.42	105	10	1.71	-23.00	-15.98	903	1
17.00	15.18	-92.83	105	10	1.70	-22.62	-15.33	905	1
16.00	13.54	-93.31	106	10	1.69	-22.22	-14.62	907	1
15.00	11.92	-93.90	106	10	1.68	-21.80	-13.82	910	1
14.00	10.36	-94.55	106	10	1.67	-21.36	-12.99	912	1
13.00	8.93	-95.23	150	9	1.66	-20.86	-12.05	916	1
12.00	7.71	-95.83	151	9	1.65	-20.33	-11.06	919	1
11.00	6.76	-96.23	197	8	1.64	-19.75	-9.99	922	1
10.00	6.08	-96.17	240	7	1.63	-19.11	-8.86	925	1
9.00	5.39	-95.28	240	7	1.62	-18.38	-7.64	929	1
8.00	3.93	-93.22	284	6	1.61	-17.59	-6.40	933	1
7.00	0.27	-90.13	342	5	1.60	-16.71	-5.09	937	1
6.00	-6.57	-87.39	347	5	1.59	-15.74	-3.73	942	1
5.00	-13.18	-86.34	485	4	1.58	-14.68	-2.37	946	1
4.00	-16.26	-81.45	563	3	1.57	-13.53	-0.98	952	1
3.00	-27.08	-69.97	589	3	1.56	-12.32	0.37	956	1
2.95	-27.19	-68.64	651	2	1.55	-11.02	1.75	962	1
2.80	-27.46	-66.78	654	2	1.54	-9.68	3.06	967	1
2.70	-26.19	-64.19	658	2	1.53	-8.31	4.36	972	1
2.60	-29.48	-60.81	663	2	1.52	-6.93	5.61	978	1
2.50	-31.05	-55.82	670	2	1.51	-5.56	6.80	983	1
2.40	-32.27	-52.74	678	2	1.50	-4.22	7.97	988	1
2.30	-32.57	-49.26	686	2	1.49	-2.91	9.12	994	1
2.20	-32.03	-46.36	694	2	1.48	-1.67	10.21	999	1
2.10	-31.34	-42.68	702	2	1.47	-0.49	11.31	1004	1
2.00	-30.93	-38.37	714	2	1.46	0.63	12.41	1009	1
1.93	-30.24	-30.47	804	1	1.45	1.72	13.53	1014	1
1.92	-30.07	-29.61	808	1	1.44	2.80	14.73	1019	1
1.91	-29.87	-28.74	860	1	1.43	3.90	16.04	1025	1
1.90	-29.64	-27.87	730	2	1.42	5.05	17.48	1031	1
1.89	-29.39	-27.05	864	1	1.41	6.29	19.09	1037	1
1.88	-29.12	-26.23	867	1	1.40	7.67	20.95	1044	1
1.87	-28.82	-25.44	869	1	1.39	9.23	23.09	1052	1
1.86	-28.50	-24.66	872	1	1.38	11.01	25.56	1060	1
1.85	-28.17	-23.94	874	1	1.37	13.04	28.52	1071	1
1.84	-27.82	-23.24	876	1	1.36	15.31	32.00	1083	1
1.83	-27.44	-22.56	878	1	1.35	17.80	36.13	1096	1
1.82	-27.10	-21.96	880	1	1.34	20.39	41.19	1113	1
1.81	-26.72	-21.37	882	1	1.33	22.90	47.32	1130	1
1.80	-26.34	-20.80	884	1	1.32	24.99	54.90	1151	1
1.79	-25.96	-20.27	886	1	1.31	26.11	64.21	1176	1
1.78	-25.59	-19.75	888	1	1.30	25.40	75.42	1206	1
1.77	-25.21	-19.24	890	1	1.29	22.09	88.55	1241	1
1.76	-24.84	-18.73	892	1	1.28	14.73	103.90	1286	1
1.75	-24.47	-18.22	894	1	1.27	2.18	123.92	1350	1
1.74	-24.10	-17.71	896	1	1.26	-11.17	166.36	1475	1

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SULPHUR MOUNTAIN, CANADA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 51.20 N GEOGRAPHIC LONGITUDE = 244.39 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
1.25	-5.90	583.84	7005	1	0.94	R	R	13292	1
1.24	R	R	4326	1	0.93	F	F	15001	1
1.23	2.65	159.04	1837	1	0.92	F	F	15001	1
1.22	-13.52	289.12	3193	1	0.91	F	F	15001	1
1.21	5.84	375.26	4034	1	0.90	R	R	14568	1
1.20	-3.01	363.87	4358	1	0.89	F	F	15001	1
1.19	5.55	757.92	8390	1	0.88	R	R	10732	1
1.18	R	R	1770	1	0.87	F	F	15001	1
1.17	F	F	15001	1	0.86	F	F	15001	1
1.16	R	R	7882	1	0.85	R	R	2355	1
1.15	11.49	442.00	4080	1	0.84	R	R	8246	1
1.14	-5.61	666.53	8167	1	0.83	F	F	15001	1
1.13	R	R	9834	1	0.82	F	F	15001	1
1.12	4.87	526.95	5231	1	0.81	F	F	15001	1
1.11	-4.88	979.60	11324	1	0.80	F	F	15001	1
1.10	R	R	13567	1	0.78	F	F	15001	1
1.09	12.72	484.11	4597	1	0.75	R	R	11586	1
1.08	F	F	15001	1	0.70	R	R	2913	1
1.07	R	R	2132	1	0.65	R	R	13101	1
1.06	F	F	15001	1	0.60	F	F	15001	1
1.05	F	F	15001	1	0.55	F	F	15001	1
1.04	F	F	15001	1	0.50	F	F	15001	1
1.03	F	F	15001	1	0.45	R	R	5510	1
1.02	R	R	4615	1	0.40	F	F	15001	1
1.01	R	R	6851	1	0.35	R	R	3135	1
1.00	R	R	9096	1	0.30	R	R	3478	1
0.99	F	F	15001	1	0.25	R	R	4036	1
0.98	R	R	2050	1	0.20	R	R	4996	1
0.97	F	F	15001	1	0.15	R	R	6586	1
0.96	F	F	15001	1	0.10	R	R	9802	1
0.95	F	F	15001	1	0.05	F	F	15001	1

## SVEKDLOVSK, U.S.S.R.

GEOGRAPHIC LATITUDE = 56.80 N

GEOGRAPHIC LONGITUDE = 60.63 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	26.14	101.80	105	10	2.34	R	R	1371	1
19.00	24.47	102.04	106	10	2.33	R	R	1380	1
18.00	22.66	102.32	106	10	2.32	R	R	1481	1
17.00	20.78	102.52	106	10	2.31	R	R	2809	1
16.00	18.83	102.72	107	10	2.30	F	F	15001	1
15.00	16.86	102.86	107	10	2.29	6.56	565.19	4022	1
14.00	14.91	103.02	108	10	2.28	-10.18	561.09	3665	1
13.00	13.04	103.19	153	9	2.27	-3.42	387.79	2620	1
12.00	11.34	103.48	154	9	2.26	6.64	810.45	6856	1
11.00	9.91	104.00	201	8	2.25	-9.27	655.53	5200	1
10.00	8.75	104.97	245	7	2.24	-0.38	407.17	2563	1
9.00	7.70	106.83	246	7	2.23	15.34	447.18	3220	1
8.00	6.09	110.16	292	6	2.22	7.37	448.19	2580	1
7.00	2.44	115.59	353	5	2.21	10.36	805.75	6336	1
6.00	-4.39	123.45	361	5	2.20	3.35	423.80	2125	1
5.00	-10.94	133.57	513	4	2.19	R	R	10356	1
4.00	-11.40	147.64	606	3	2.18	R	R	14720	1
3.90	-11.56	150.20	609	3	2.17	R	R	5729	1
3.80	-11.74	153.22	613	3	2.16	-5.50	1283.02	10599	1
3.70	-12.00	156.78	618	3	2.15	F	F	15001	1
3.60	-12.04	160.90	623	1	2.14	R	R	3869	1
3.50	-11.88	165.64	630	1	2.13	F	F	15001	1
3.40	-11.16	170.96	639	3	2.12	F	F	15001	1
3.30	-9.72	176.72	649	3	2.11	F	F	15001	1
3.20	-7.50	182.76	661	3	2.10	-12.23	622.35	5980	1
3.10	-4.64	188.91	673	3	2.09	R	R	1754	1
3.00	-1.47	195.17	754	2	2.08	R	R	1703	1
2.90	1.58	201.82	770	2	2.07	R	R	1874	1
2.80	4.36	209.63	786	2	2.06	R	R	4086	1
2.70	6.97	220.36	808	2	2.05	R	R	8434	1
2.60	9.12	238.03	845	2	2.04	F	F	15001	1
2.51	4.50	259.60	1092	1	2.03	F	F	15001	1
2.50	2.34	275.20	1110	1	2.02	F	F	15001	1
2.49	-0.59	291.61	1131	1	2.01	F	F	15001	1
2.48	-4.55	299.19	1186	1	2.00	R	R	11674	1
2.47	-9.85	298.67	1189	1	1.99	F	F	15001	1
2.46	-16.65	311.80	1234	1	1.98	F	F	15001	1
2.45	-23.57	333.67	1303	1	1.97	F	F	15001	1
2.44	-12.41	379.89	1458	1	1.96	R	R	8989	1
2.43	-8.34	411.14	6482	1	1.95	R	R	8501	1
2.42	-1.89	460.59	2375	1	1.94	R	R	3199	1
2.41	1.21	551.30	1767	1	1.93	F	F	15001	1
2.40	6.45	512.19	3076	1	1.92	R	R	5532	1
2.39	0.34	550.24	2015	1	1.91	F	F	15001	1
2.38	5.53	549.54	2182	1	1.90	R	R	1625	1
2.37	18.17	481.83	3387	1	1.89	R	R	1680	1
2.36	9.44	508.73	4414	1	1.88	R	R	14843	1
2.35	R	R	1411	1	1.79	F	F	15001	1

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SVERDLOVSK. U.S.S.R. (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 56.80 N GEOGRAPHIC LONGITUDE = 60.63 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
1.74	R	R	5354	1	1.25	R	R	6425	1
1.69	F	F	15001	1	1.20	R	R	3655	1
1.64	R	R	1898	1	1.15	F	F	15001	1
1.59	R	R	3261	1	1.10	F	F	15001	1
1.54	R	R	1946	1	1.05	R	R	3254	1
1.49	R	R	2060	1	1.00	F	F	15001	1
1.45	F	F	15001	1	0.95	R	R	1439	1
1.44	R	R	7855	1	0.90	R	R	1563	1
1.40	F	F	15001	1	0.85	R	R	1471	1
1.35	F	F	15001	1	0.80	R	R	1571	1
1.30	F	F	15001	1	0.75	R	R	1538	1



## SWARTHMORE, UNITED STATES

GEOGRAPHIC LATITUDE = 39.90 N      GEOGRAPHIC LONGITUDE = 284.65 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	12.01	-53.80	100	10	2.06	R	R	1486	1
19.00	10.04	-53.10	100	10	2.05	R	R	1540	1
18.00	7.94	-52.50	107	10	2.04	5.26	693.36	6302	1
17.00	5.70	-52.02	100	10	2.03	-10.00	340.68	3959	1
16.00	3.35	-51.55	100	10	2.02	0.21	220.39	2400	1
15.00	.80	-51.15	100	10	2.01	-1.50	331.39	3300	1
14.00	-1.61	-50.79	109	10	2.00	-10.50	250.04	2464	1
13.00	-4.04	-50.54	155	9	1.99	7.62	476.69	3947	1
12.00	-6.29	-50.30	150	9	1.98	0.22	540.72	5659	1
11.00	-8.17	-50.21	204	8	1.97	-5.40	522.70	5971	1
10.00	-9.40	-49.92	249	7	1.96	2.10	225.07	2105	1
9.00	-10.11	-49.11	249	7	1.95	2.35	510.36	5735	1
8.00	-10.30	-48.90	295	6	1.94	-10.05	337.05	3365	1
7.00	-11.52	-48.17	355	5	1.93	F	F	15001	1
6.00	-15.95	-43.42	361	5	1.92	.67	230.12	1997	1
5.00	-22.43	-1.10	514	4	1.91	F	F	15001	1
4.00	-21.10	9.04	600	3	1.90	R	R	2126	1
3.00	-8.15	45.50	660	3	1.89	-5.26	664.23	6451	1
2.90	-4.37	49.27	745	2	1.88	.01	510.49	6055	1
2.80	-6.64	52.77	754	2	1.87	F	F	15001	1
2.70	2.90	56.67	705	2	1.86	R	R	1520	1
2.60	6.95	62.10	777	2	1.85	-1.47	549.05	6151	1
2.50	12.51	70.85	790	2	1.84	F	F	15001	1
2.40	21.09	06.51	831	2	1.83	F	F	15001	1
2.30	27.81	120.74	904	2	1.82	R	R	5704	1
2.29	27.10	126.14	1000	1	1.81	F	F	15001	1
2.20	25.74	131.09	1104	1	1.80	F	F	15001	1
2.27	23.54	130.30	1122	1	1.79	R	R	9200	1
2.20	20.20	145.07	1145	1	1.78	F	F	15001	1
2.25	15.65	102.45	1104	1	1.77	F	F	15001	1
2.24	9.30	100.60	1199	1	1.76	R	R	12927	1
2.25	.77	170.59	1239	1	1.75	F	F	15001	1
2.22	-10.10	104.02	1295	1	1.74	F	F	15001	1
2.21	-20.19	213.25	1300	1	1.73	R	R	10109	1
2.20	-11.75	300.01	1929	1	1.72	R	R	1003	1
2.19	-26.10	313.10	2902	1	1.71	R	R	1778	1
2.10	-3.61	231.45	2031	1	1.70	F	F	15001	1
2.17	9.70	221.97	1773	1	1.69	F	F	15001	1
2.10	-8.59	205.79	1755	1	1.68	F	F	15001	1
2.15	-11.75	240.20	2254	1	1.67	R	R	11095	1
2.14	1.02	143.15	1405	1	1.66	F	F	15001	1
2.15	-18.19	303.00	2000	1	1.65	F	F	15001	1
2.12	-16.82	325.00	2472	1	1.64	R	R	13500	1
2.11	6.47	214.15	2330	1	1.63	R	R	12213	1
2.10	1.15	500.02	3069	2	1.62	F	F	15001	1
2.09	10.32	214.97	2000	1	1.49	R	R	2259	1
2.00	K	K	1505	1	1.44	R	R	6436	1
2.07	K	K	1474	1	1.39	R	R	10337	1

## SWARTHMORE, UNITED STATES (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 39.90 N GEOGRAPHIC LONGITUDE = 284.65 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
1.34	K	K	3347	1	0.99	F	F	15001	1
1.29	F	F	15001	1	0.94	R	R	7643	1
1.24	K	K	3331	1	0.89	F	F	15001	1
1.19	F	F	15001	1	0.84	R	R	1723	1
1.14	F	F	15001	1	0.79	R	R	1752	1
1.09	K	K	2615	1	0.74	R	R	1636	1
1.04	K	K	10104	1	0.69	R	R	1734	1
1.00	K	K	5297	1	0.64	R	R	1826	1

## TIXIE BAY, U.S.S.R.

GEOGRAPHIC LATITUDE = 71.55 N

GEOGRAPHIC LONGITUDE = 128.90 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	49.89	164.71	103	10	0.67	-12.21	257.30	1362	1
19.00	48.73	164.41	103	10	0.66	-10.46	261.34	1385	1
18.00	47.51	164.02	103	10	0.65	-7.98	266.23	1413	1
17.00	46.25	163.53	103	10	0.64	-5.35	271.00	1442	1
16.00	44.95	162.96	104	10	0.63	-3.20	275.31	1469	1
15.00	43.64	162.25	104	10	0.62	-1.00	280.64	1501	1
14.00	42.35	161.44	104	10	0.61	2.10	288.58	1543	1
13.00	41.13	160.57	147	9	0.60	5.27	298.68	1593	1
12.00	40.02	159.71	148	9	0.59	6.80	309.34	1647	1
11.00	39.09	158.94	193	8	0.58	6.50	323.10	1711	1
10.00	38.32	158.49	235	7	0.57	-0.17	350.74	1831	1
9.00	37.59	158.65	235	7	0.56	10.78	456.04	2284	1
8.00	36.42	159.67	278	6	0.55	17.40	413.57	2614	1
7.00	33.92	161.32	334	5	0.54	25.24	443.19	3110	1
6.00	29.48	162.23	336	5	0.53	R	R	2772	1
5.00	25.04	161.41	466	4	0.52	-3.73	625.97	5962	1
4.00	21.83	163.06	539	3	0.51	8.26	453.91	3643	1
3.00	13.78	164.70	554	3	0.50	-16.25	1004.33	8601	1
2.00	2.06	171.14	650	2	0.49	-0.65	978.74	7841	1
1.90	-0.18	172.05	659	2	0.48	F	F	15001	1
1.80	-1.52	172.78	667	2	0.47	F	F	15001	1
1.70	-2.79	174.30	677	2	0.46	F	F	15001	1
1.60	-5.57	176.38	690	2	0.45	F	F	15001	1
1.50	-7.71	177.94	832	1	0.44	F	F	15001	1
1.40	-9.62	180.51	751	1	0.43	F	F	15001	1
1.30	-12.85	183.63	877	1	0.42	F	F	15001	1
1.20	-15.07	187.49	907	1	0.41	F	F	15001	1
1.10	-17.90	192.44	946	1	0.40	F	F	15001	1
1.00	-20.95	199.97	998	1	0.39	R	R	9443	1
0.90	-22.93	210.21	1060	1	0.38	R	R	4059	1
0.81	-22.81	223.19	1108	1	0.37	F	F	15001	1
0.80	-22.84	224.89	1108	1	0.36	F	F	15001	1
0.79	-22.37	226.23	1109	1	0.35	F	F	15001	1
0.78	-22.17	228.35	1102	1	0.34	F	F	15001	1
0.77	-21.87	230.79	1105	1	0.33	F	F	15001	1
0.76	-21.35	233.32	1209	1	0.32	F	F	15001	1
0.75	-20.66	236.86	1223	1	0.31	F	F	15001	1
0.74	-19.95	237.53	1237	1	0.30	F	F	15001	1
0.73	-19.33	239.47	1250	1	0.29	F	F	15001	1
0.72	-18.65	241.99	1266	1	0.28	F	F	15001	1
0.71	-17.64	245.15	1284	1	0.19	F	F	15001	1
0.70	-16.34	248.56	1303	1	0.14	R	R	7852	1
0.69	-14.83	251.65	1323	1	0.09	R	R	11919	1
0.68	-13.49	254.33	1342	1	0.04	F	F	15001	1

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## TRIVANDRUM, INDIA

GEOGRAPHIC LATITUDE = 8.48 N

GEOGRAPHIC LONGITUDE = 76.95 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	-1.78	215.27	142	10	17.31	R	R	1291	1
19.00	-4.57	235.88	155	10	17.30	R	R	1266	1
18.90	-4.91	238.62	157	10	17.29	R	R	1244	1
18.80	-5.27	241.54	159	10	17.28	R	R	1224	1
18.70	-5.63	244.67	161	10	17.27	R	R	1204	1
18.60	-6.02	248.07	164	10	17.26	R	R	1184	1
18.50	-6.42	251.74	167	10	17.25	R	R	1173	1
18.40	-6.84	255.74	169	10	17.24	R	R	1158	1
18.30	-7.28	260.19	173	10	17.23	R	R	1144	1
18.20	-7.74	265.14	177	10	17.22	R	R	1131	1
18.10	-8.22	270.73	181	10	17.21	R	R	1119	1
18.00	-8.71	277.19	186	10	17.20	R	R	1106	1
17.90	-9.21	284.32	193	10	17.19	R	R	1095	1
17.80	-9.68	294.09	200	10	17.18	R	R	1047	1
17.70	-10.04	306.03	211	10	17.09	R	R	1007	1
17.60	-10.02	322.65	225	10	17.04	R	R	973	1
17.50	-8.24	350.39	251	10	17.00	R	R	147	10
17.49	-7.77	354.47	1602	1	16.99	R	R	943	1
17.48	-7.16	359.01	1628	1	16.94	R	R	917	1
17.47	-6.40	364.08	1657	1	16.89	R	R	893	1
17.46	-5.40	369.85	1692	1	16.84	R	R	873	1
17.45	-4.09	376.52	1731	1	16.79	R	R	853	1
17.44	-2.32	384.46	1779	1	16.74	R	R	835	1
17.43	0.16	394.29	1839	1	16.69	R	R	818	1
17.42	3.85	407.29	1916	1	16.64	R	R	803	1
17.41	9.60	426.93	2037	1	16.59	R	R	788	1
17.40	16.61	469.81	2279	1	16.54	R	R	775	1
17.39	R	R	2012	1	16.49	R	R	761	1
17.38	R	R	1769	1	16.44	R	R	750	1
17.37	R	R	1578	1	16.39	R	R	737	1
17.36	R	R	1494	1	16.34	R	R	727	1
17.35	R	R	1434	1	16.29	R	R	716	1
17.34	R	R	1389	1	16.24	R	R	706	1
17.33	R	R	1351	1	16.19	R	R	696	1
17.32	R	R	1319	1	16.14	R	R	687	1

## UPPSALA, SWEDEN

GEOGRAPHIC LATITUDE = 59.85 N      GEOGRAPHIC LONGITUDE = 17.92 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS	P	ASYMPTOTIC LAT	ASYMPTOTIC LONG	NSTEP	SS
20.00	33.51	60.69	105	10	1.43	18.91	461.21	3070	1
19.00	31.90	60.80	105	10	1.42	R	R	1583	1
18.00	30.00	60.85	106	10	1.41	F	F	15001	1
17.00	28.40	60.80	106	10	1.40	7.17	530.58	3255	1
16.00	26.56	60.67	106	10	1.39	F	F	15001	1
15.00	24.72	60.45	106	10	1.38	-7.43	556.74	5120	1
14.00	22.89	60.17	107	10	1.37	F	F	15001	1
13.00	21.16	59.82	152	9	1.36	F	F	15001	1
12.00	19.60	59.47	153	9	1.35	F	F	15001	1
11.00	18.46	59.22	199	8	1.34	-1.40	1428.40	14849	1
10.00	17.69	59.34	242	7	1.33	F	F	15001	1
9.00	17.26	60.25	243	7	1.32	R	R	1916	1
8.00	16.66	62.57	287	6	1.31	F	F	15001	1
7.00	14.41	66.84	346	5	1.30	R	R	5713	1
6.00	8.42	72.36	351	5	1.29	F	F	15001	1
5.00	.46	76.86	493	4	1.28	F	F	15001	1
4.00	-1.60	82.04	576	3	1.27	F	F	15001	1
3.00	-10.39	101.22	608	3	1.26	F	F	15001	1
2.90	-10.34	103.01	674	2	1.25	R	R	5144	1
2.80	-9.98	104.77	679	2	1.24	F	F	15001	1
2.70	-9.59	106.87	683	2	1.23	F	F	15001	1
2.60	-9.40	109.83	686	2	1.22	R	R	1840	1
2.50	-9.74	114.13	695	2	1.21	F	F	15001	1
2.40	-10.11	119.90	705	2	1.20	F	F	15001	1
2.30	-9.70	126.61	717	2	1.19	R	R	5701	1
2.20	-7.83	133.14	733	2	1.18	F	F	15001	1
2.10	-5.15	138.46	747	2	1.17	R	R	5848	1
2.00	-2.74	144.02	761	2	1.16	F	F	15001	1
1.90	.14	153.65	782	2	1.15	R	R	7521	1
1.80	6.94	170.86	820	2	1.14	F	F	15001	1
1.70	15.43	196.39	860	2	1.13	F	F	15001	1
1.60	10.12	231.21	961	2	1.08	R	R	2118	1
1.59	7.70	236.66	1164	1	1.03	F	F	15001	1
1.56	4.36	243.09	1173	1	1.00	F	F	15001	1
1.57	-.39	251.07	1196	1	0.99	F	F	15001	1
1.56	-7.36	261.76	1231	1	0.93	F	F	15001	1
1.55	-17.74	278.86	1283	1	0.88	F	F	15001	1
1.54	-26.40	320.59	1389	1	0.83	F	F	15001	1
1.53	4.68	408.25	2691	1	0.78	F	F	15001	1
1.52	22.48	444.69	2756	1	0.73	R	R	3158	1
1.51	12.00	874.47	5590	1	0.68	F	F	15001	1
1.50	6.42	563.84	4577	1	0.63	F	F	15001	1
1.49	1.39	497.62	3581	1	0.58	R	R	2076	1
1.48	R	R	1672	1	0.53	R	R	2263	1
1.47	R	R	1596	1	0.48	R	R	2303	1
1.46	8.79	441.90	3493	1	0.43	R	R	2517	1
1.45	-2.71	1129.16	10031	1	0.38	R	R	2721	1
1.44	-.72	510.31	3592	1	0.33	R	R	3085	1

UPPSALA, SWEDEN (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 59.85 N GEOGRAPHIC LONGITUDE = 17.92 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
0.26	K	R	3587	1	0.10	R	R	5430	1
0.25	K	R	4301	1	0.17	R	R	7451	1
					0.04	R	R	12036	1

## UTRECHT, NETHERLANDS

GEOGRAPHIC LATITUDE = 52.06 N

GEOGRAPHIC LONGITUDE = 5.07 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	21.61	54.64	107	10	3.05	-27.51	303.86	1383	1
19.00	19.46	55.30	107	10	3.04	20.91	403.62	1739	1
18.00	17.15	55.91	108	10	3.03	R	R	1667	1
17.00	14.68	56.44	108	10	3.02	-9.78	378.52	2314	1
16.00	12.08	57.06	109	10	3.01	-3.86	318.52	1838	1
15.00	9.38	57.62	110	10	3.00	R	R	2530	1
14.00	6.63	58.19	110	10	2.99	10.99	439.92	3615	1
13.00	3.94	58.81	158	9	2.98	0.80	537.98	3633	1
12.00	1.47	59.49	159	9	2.97	R	R	5919	1
11.00	-0.56	60.33	208	8	2.96	R	R	2656	1
10.00	-1.92	61.48	255	7	2.95	9.07	805.71	7474	1
9.00	-2.44	63.24	256	7	2.94	R	R	1754	1
8.00	-2.37	66.34	303	6	2.93	R	R	1338	1
7.00	-3.06	72.44	366	5	2.92	R	R	1325	1
6.00	-7.13	83.80	375	5	2.91	R	R	1331	1
5.00	-12.26	103.71	543	4	2.90	R	R	1355	1
4.90	-12.14	106.17	547	4	2.89	R	R	1444	1
4.80	-11.75	108.67	552	4	2.88	-11.64	1057.56	10967	1
4.70	-11.21	111.14	556	4	2.87	R	R	4620	1
4.60	-10.40	113.60	561	4	2.86	-2.36	1261.98	13754	1
4.50	-9.38	116.02	648	3	2.85	-11.68	356.93	2819	1
4.40	-8.20	118.36	652	3	2.84	8.02	408.55	3000	1
4.30	-6.84	120.68	658	3	2.83	-12.76	357.54	2746	1
4.20	-5.51	122.99	662	3	2.82	1.08	605.74	5523	1
4.10	-4.12	125.35	666	3	2.81	22.55	479.17	2710	1
4.00	-2.73	127.90	671	3	2.80	R	R	4040	1
3.90	-1.37	130.74	675	3	2.79	-13.19	341.08	2611	1
3.80	-0.	134.11	680	3	2.78	19.63	449.73	3123	1
3.70	1.44	138.25	686	3	2.77	0.20	1120.72	11537	1
3.60	3.12	143.49	693	3	2.76	16.01	456.15	2856	1
3.50	5.30	148.36	704	3	2.75	R	R	3512	1
3.40	8.34	154.66	720	3	2.74	-5.68	390.76	2272	1
3.30	12.46	172.96	744	3	2.73	-9.61	373.00	2218	1
3.20	16.27	194.34	786	3	2.72	R	R	7984	1
3.14	16.38	197.24	1036	1	2.71	8.55	442.37	3604	1
3.16	16.37	200.35	1048	1	2.70	R	R	2136	1
3.17	16.20	203.67	1054	1	2.69	F	F	15001	1
3.18	15.85	207.24	1064	1	2.68	-8.51	647.16	4501	1
3.15	15.25	211.07	1075	1	2.67	-14.37	1010.81	9480	1
3.14	14.35	215.18	1086	1	2.66	R	R	4108	1
3.13	13.06	219.63	1100	1	2.65	R	R	14031	1
3.12	11.29	224.46	1115	1	2.64	R	R	13632	1
3.11	8.84	229.74	1133	1	2.63	R	R	10190	1
3.10	5.71	235.57	1152	1	2.62	R	R	10515	1
3.09	1.50	242.18	1176	1	2.61	F	F	15001	1
3.08	-4.02	249.98	1205	1	2.60	R	R	5805	1
3.07	-11.23	259.97	1242	1	2.59	F	F	15001	1
3.06	-20.22	274.84	1294	1	2.58	R	R	1777	1

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UTRECHT, NETHERLANDS (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 52.06 N GEOGRAPHIC LONGITUDE = 5.07 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
2.57	R	R	1724	1	2.21	R	R	10816	1
2.56	R	R	1722	1	2.16	R	R	1934	1
2.55	R	R	1783	1	2.11	R	R	10211	1
2.54	F	F	15001	1	2.06	F	F	15001	1
2.53	F	F	15001	1	2.01	F	F	15001	1
2.52	R	R	4683	1	1.96	F	F	15001	1
2.51	R	R	4002	1	1.91	R	R	14580	1
2.50	F	F	15001	1	1.86	R	R	2937	1
2.49	R	R	11888	1	1.81	F	F	15001	1
2.48	F	F	15001	1	1.76	F	F	15001	1
2.47	F	F	15001	1	1.71	F	F	15001	1
2.46	F	F	15001	1	1.66	F	F	15001	1
2.41	F	F	15001	1	1.61	R	R	2409	1
2.36	R	R	6038	1	1.56	R	R	6817	1
2.31	F	F	15001	1	1.51	R	R	14062	1
2.26	R	R	13921	1	1.46	R	R	2430	1
					1.41	F	F	15001	1



## VICTORIA, CANADA

GEOGRAPHIC LATITUDE = 48.50 N

GEOGRAPHIC LONGITUDE = 234.58 E

## TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
20.00	11.62	-96.67	106	10	1.88	R	R	4061	1
19.00	9.78	-96.79	106	10	1.87	-13.38	980.00	10650	1
18.00	7.84	-96.98	106	10	1.86	1.52	524.80	4766	1
17.00	5.82	-97.24	107	10	1.85	-8.61	357.26	3370	1
16.00	3.75	-97.58	107	10	1.84	-4.65	629.89	6418	1
15.00	1.66	-97.98	108	10	1.83	F	F	15001	1
14.00	-0.37	-98.45	108	10	1.82	8.28	1195.11	10088	1
13.00	-2.28	-98.92	154	9	1.81	F	F	15001	1
12.00	-3.94	-99.33	154	9	1.80	-1.17	232.29	2424	1
11.00	-5.25	-99.52	201	8	1.79	R	R	2835	1
10.00	-6.15	-99.21	245	7	1.78	13.48	441.82	5313	1
9.00	-6.83	-97.99	246	7	1.77	F	F	15001	1
8.00	-8.09	-95.28	291	6	1.76	R	R	1794	1
7.00	-11.71	-90.65	351	5	1.75	R	R	1824	1
6.00	-19.54	-84.42	358	5	1.74	10.79	764.45	8646	1
5.00	-28.09	-77.35	507	4	1.73	F	F	15001	1
4.00	-29.57	-67.06	595	3	1.72	F	F	15001	1
3.00	-28.92	-31.58	645	3	1.71	F	F	15001	1
2.90	-26.96	-28.62	716	2	1.70	R	R	14951	1
2.80	-24.94	-25.44	723	2	1.69	F	F	15001	1
2.70	-22.72	-21.26	730	2	1.68	F	F	15001	1
2.60	-19.65	-15.20	741	2	1.67	R	R	4871	1
2.50	-14.47	-6.93	788	2	1.66	F	F	15001	1
2.40	-5.59	3.24	784	2	1.65	R	R	2463	1
2.30	6.94	19.64	823	2	1.64	F	F	15001	1
2.20	19.19	32.82	871	2	1.63	F	F	15001	1
2.10	24.27	61.81	936	2	1.62	F	F	15001	1
2.09	23.28	68.62	1182	1	1.61	F	F	15001	1
2.08	23.33	78.28	1138	1	1.60	F	F	15001	1
2.07	22.32	78.48	1149	1	1.59	F	F	15001	1
2.06	20.76	81.38	1188	1	1.58	F	F	15001	1
2.05	18.48	88.13	1188	1	1.57	R	R	1774	1
2.04	15.87	96.88	1218	1	1.56	F	F	15001	1
2.03	10.15	108.98	1242	1	1.55	F	F	15001	1
2.02	3.04	119.18	1287	1	1.54	F	F	15001	1
2.01	-4.83	141.88	1281	1	1.53	F	F	15001	1
2.00	0.74	208.19	1872	1	1.52	F	F	15001	1
1.99	R	R	1827	1	1.51	R	R	3882	1
1.98	0.48	879.68	9471	1	1.50	F	F	15001	1
1.97	2.68	169.18	1023	1	1.49	F	F	15001	1
1.96	-13.98	271.58	3677	1	1.48	F	F	15001	1
1.95	-4.87	284.88	2788	1	1.38	F	F	15001	1
1.94	-3.42	321.84	3111	1	1.38	R	R	13295	1
1.93	-9.76	1048.18	10782	1	1.25	F	F	15001	1
1.92	R	R	1816	1	1.20	R	R	2349	1
1.91	R	R	1489	1	1.15	F	F	15001	1
1.90	F	F	15001	1	1.10	R	R	2458	1
1.89	1.33	536.36	5850	1	1.05	F	F	15001	1

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VICTORIA, CANADA (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 48.50 N GEOGRAPHIC LONGITUDE = 236.50 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
1.00	N	R	10293	1	0.70	R	R	1701	1
0.95	F	F	15001	1	0.65	R	R	1777	1
0.90	F	F	15001	1	0.60	R	R	1864	1
0.85	F	F	15001	1	0.55	R	R	1991	1
0.80	F	F	15001	1	0.50	R	R	2163	1
0.75	F	F	15001	1	0.45	R	R	2338	1

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## YAKUTSK, U.S.S.R.

GEOGRAPHIC LATITUDE = 62.02 N

GEOGRAPHIC LONGITUDE = 129.72 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP SS	P	ASYMPTOTIC LAT	LONG	NSTEP SS
20.00	30.64	170.92	105 10	1.70	8.52	742.04	5473 1
19.00	28.82	170.89	105 10	1.69	-2.90	564.53	3243 1
18.00	26.84	170.79	106 10	1.68	-12.73	1049.83	7001 1
17.00	24.77	170.59	106 10	1.67	7.72	467.75	2604 1
16.00	22.61	170.33	107 10	1.66	3.99	477.04	2224 1
15.00	20.41	169.96	107 10	1.65	7 3	747.77	4683 1
14.00	18.20	169.52	107 10	1.64	-1 3	682.48	3967 1
13.00	16.08	169.04	152 9	1.63	1 43	1738.04	13715 1
12.00	14.14	168.56	153 9	1.62	3.72	1244.54	8881 1
11.00	12.51	168.26	200 8	1.61	F	F	15001 1
10.00	11.27	168.30	244 7	1.60	0.56	879.68	6225 1
9.00	10.31	169.04	244 7	1.59	0.69	880.49	6070 1
8.00	8.97	171.03	289 6	1.58	F	F	15001 1
7.00	5.67	174.60	348 5	1.57	R	R	1421 1
6.00	-1.46	179.21	353 5	1.56	R	R	3511 1
5.00	-10.01	183.89	497 4	1.55	F	F	15001 1
4.00	-13.92	181.54	581 3	1.54	F	F	15001 1
3.00	-23.11	216.22	621 3	1.53	F	F	15001 1
2.90	-22.74	219.01	688 2	1.52	F	F	15001 1
2.80	-22.48	222.16	694 2	1.51	R	R	2364 1
2.70	-22.33	226.29	700 2	1.50	F	F	15001 1
2.60	-22.21	231.99	709 2	1.49	F	F	15001 1
2.50	-21.47	239.61	721 2	1.48	R	R	2312 1
2.40	-19.13	248.81	739 2	1.47	R	R	9153 1
2.30	-14.88	258.29	759 2	1.46	F	F	15001 1
2.20	-10.00	267.23	781 2	1.45	F	F	15001 1
2.10	-5.48	277.17	801 2	1.44	F	F	15001 1
2.00	0.57	284.26	844 2	1.43	F	F	15001 1
1.90	4.33	339.93	948 2	1.42	F	F	15001 1
1.89	2.45	349.41	1153 1	1.41	R	R	1748 1
1.88	-1.05	361.36	1189 1	1.40	R	R	1726 1
1.87	-6.14	377.83	1239 1	1.39	F	F	15001 1
1.86	-10.24	403.80	1328 1	1.38	R	R	4976 1
1.85	24.65	447.47	1628 1	1.33	F	F	15001 1
1.84	3.40	778.06	5680 1	1.28	F	F	15001 1
1.83	11.60	907.27	2693 1	1.23	F	F	15001 1
1.82	1.83	415.16	1783 1	1.18	F	F	15001 1
1.81	-5.77	979.75	3339 1	1.13	R	R	4833 1
1.80	1.57	553.48	311 1	1.08	R	R	13894 1
1.79	-11.40	924.84	2601 1	1.03	F	F	15001 1
1.78	26.70	495.76	2827 1	1.00	R	R	2452 1
1.77	13.72	970.20	4013 1	0.98	F	F	15001 1
1.76	H	R	1514 1	0.95	R	R	10606 1
1.75	H	H	1468 1	0.90	F	F	15001 1
1.74	H	H	1487 1	0.85	F	F	15001 1
1.73	H	H	3795 1	0.80	F	F	15001 1
1.72	12.07	472.15	2735 1	0.75	F	F	15001 1
1.71	-17.17	668.40	5100 1	0.70	R	R	3525 1

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YAKUTSK, U.S.S.R. (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 62.02 N GEOGRAPHIC LONGITUDE = 129.72 E

TRAJECTORY CALCULATIONS USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT LONG		NSTEP SS		P	ASYMPTOTIC LAT LONG		NSTEP SS	
0.65	H	R	7781	1	0.45	R	R	2285	1
0.60	R	H	2004	1	0.40	R	R	2523	1
0.55	H	R	2076	1	0.35	R	R	2826	1
0.50	R	R	2104	1	0.30	R	R	3243	1

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 39.80 S

GEOGRAPHIC LONGITUDE = 22.50 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
15.00	9.81	02.14	109	10	3.72	16.22	500.58	3674	1
14.00	13.27	03.72	110	10	3.71	-20.04	294.55	2177	1
13.00	16.39	05.63	157	9	3.70	R	R	2421	1
12.00	20.80	08.04	159	9	3.69	5.35	489.76	3961	1
11.00	24.71	11.15	210	8	3.68	-11.99	571.34	4253	1
10.00	28.17	15.20	259	7	3.67	12.30	397.10	2836	1
9.00	30.64	00.61	264	7	3.66	R	R	2481	1
8.00	31.39	07.24	310	6	3.65	-20.57	296.73	2037	1
7.00	29.93	05.10	385	5	3.64	-15.11	271.94	1960	1
6.00	26.49	106.45	393	5	3.63	-16.20	280.83	1988	1
5.00	19.01	130.69	568	4	3.62	4.95	375.27	2294	1
4.90	17.33	134.72	573	4	3.61	1.11	413.81	3099	1
4.80	15.22	139.22	580	4	3.60	R	R	2178	1
4.70	12.54	144.20	588	4	3.59	-16.92	642.75	5853	1
4.60	9.15	150.04	598	4	3.58	R	R	2032	1
4.50	4.83	156.75	700	3	3.57	-5.09	338.04	2514	1
4.40	-5.59	164.92	719	3	3.56	F	F	15001	1
4.30	-7.18	175.60	745	3	3.55	R	R	2874	1
4.20	-14.19	191.92	782	3	3.54	-10	600.63	4732	1
4.10	-16.24	221.75	845	3	3.53	-2.20	1093.78	11721	1
4.00	-6.01	344.21	1133	3	3.52	R	R	7055	1
3.99	-9.04	373.72	2114	1	3.51	R	R	1817	1
3.98	N	N	1592	1	3.50	R	R	1770	1
3.97	6.43	407.94	4230	1	3.49	R	R	1774	1
3.96	-2.12	376.44	2071	1	3.48	R	R	1849	1
3.95	-18.97	292.80	1790	1	3.47	14.35	785.88	1021	1
3.94	-6.06	302.84	1831	1	3.46	R	R	4648	1
3.93	-7.55	306.24	2594	1	3.45	12.95	1226.78	12002	1
3.92	7.85	333.70	4019	1	3.44	R	R	7003	1
3.91	-22.75	350.10	2287	1	3.43	F	F	15001	1
3.90	-11.64	300.89	2386	1	3.42	R	R	2790	1
3.89	-3.09	432.92	4897	1	3.41	R	R	3836	1
3.88	-20.62	335.61	2460	1	3.40	R	R	8910	1
3.87	-9.61	923.12	8649	1	3.39	-1.26	950.24	8520	1
3.86	N	N	1353	1	3.38	8.48	1216.41	11102	1
3.85	N	N	1319	1	3.37	F	F	15001	1
3.84	N	N	1301	1	3.36	7.41	609.82	5712	1
3.83	N	R	1294	1	3.35	-7.15	937.92	9282	1
3.82	N	N	1300	1	3.34	9.45	1200.09	11619	1
3.81	N	N	1320	1	3.33	R	R	5028	1
3.80	N	N	1370	1	3.32	R	R	9398	1
3.79	N	N	1425	1	3.31	F	F	15001	1
3.78	N	N	8072	1	3.30	.37	585.05	5581	1
3.77	-8.15	342.65	3570	1	3.29	R	R	2431	1
3.76	5.38	502.67	3282	1	3.28	R	R	2456	1
3.75	17.11	741.41	7018	1	3.27	F	F	15001	1
3.74	-2.05	445.27	4385	1	3.26	R	R	13518	1
3.73	-4.78	332.55	2806	1	3.25	R	R	10093	1

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SOTA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 39.80 S

GEOGRAPHIC LONGITUDE = 22.50 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP SS		P	ASYMPTOTIC		NSTEP SS	
	LAT	LONG				LAT	LONG		
3.24	K	K	4645	1	3.02	R	R	5691	2
3.23	F	F	15001	1	3.01	R	R	7786	2
3.22	K	K	2404	1	3.00	R	R	6183	1
3.21	K	K	2312	1	2.95	R	R	1625	1
3.20	F	F	15001	1	2.90	R	R	1607	1
3.19	K	K	4973	1	2.85	R	R	6469	1
3.18	F	F	15000	2	2.80	F	F	15001	1
3.17	F	F	15000	2	2.75	R	R	7157	1
3.16	F	F	15000	2	2.70	R	R	2992	1
3.15	K	K	2517	2	2.65	F	F	15001	1
3.14	F	F	15001	1	2.60	R	R	6139	1
3.13	K	K	3606	2	2.55	F	F	15001	1
3.12	K	K	1913	2	2.50	R	R	8490	1
3.11	K	K	9677	2	2.45	R	R	8957	1
3.10	K	K	4563	2	2.40	R	R	9355	1
3.09	K	K	9624	2	2.35	F	F	15001	1
3.08	K	R	4456	2	2.30	R	R	2055	1
3.07	K	K	13194	2	2.25	R	R	7492	1
3.06	F	F	15000	2	2.20	F	F	15001	1
3.05	K	K	3941	2	2.15	R	K	2307	1
3.04	K	K	6676	2	2.10	F	F	15001	1
3.03	K	K	4926	2	2.05	R	R	2079	1
					2.00	F	F	15001	1

## SOYA VOYAGE

GEOGRAPHIC LATITUDE = 34.60 N

GEOGRAPHIC LONGITUDE = 23.20 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC		NSTEP	SS	P	ASYMPTOTIC		NSTEP	SS
	LAT	LONG				LAT	LONG		
15.00	15.30	70.71	110	10	4.88	2.98	286.53	1311	1
14.00	18.91	73.57	111	10	4.87	3.23	302.88	1358	1
13.00	22.72	77.16	160	9	4.86	-5.56	324.89	1430	1
12.00	26.54	81.80	162	9	4.85	-13.81	376.14	1507	1
11.00	29.99	88.13	210	8	4.84	14.43	400.90	2219	1
10.00	32.27	96.47	260	7	4.83	R	R	1752	1
9.00	32.09	107.04	275	7	4.82	R	R	1565	1
8.00	27.93	119.10	694	2	4.81	R	R	2877	1
7.75	26.14	122.23	700	2	4.80	-4.74	337.16	2267	1
7.50	24.04	125.42	707	2	4.79	18.04	477.16	4335	1
7.00	19.95	132.12	722	2	4.78	-4.54	355.34	2043	1
6.75	15.40	135.80	730	2	4.77	-13.78	300.80	1873	1
6.50	12.65	139.91	733	2	4.76	-12.19	327.51	1963	1
6.25	8.99	144.69	750	2	4.75	-5.34	364.39	2656	1
6.00	4.87	150.54	763	2	4.74	-7.95	535.57	4483	1
5.90	3.05	153.32	769	2	4.73	R	R	2439	1
5.80	1.12	156.45	776	2	4.72	-12.14	316.20	2169	1
5.75	.11	158.17	780	2	4.71	-2.45	353.76	2876	1
5.70	-.94	160.02	784	2	4.70	R	R	2525	1
5.60	-3.10	164.10	794	2	4.69	R	R	7033	1
5.50	-5.54	169.05	805	2	4.68	21.37	430.05	2760	1
5.40	-8.00	174.99	819	2	4.67	R	R	2834	1
5.30	-10.55	182.45	830	2	4.66	R	R	1439	1
5.25	-11.90	186.90	840	2	4.65	R	R	1360	1
5.20	-13.05	192.20	854	2	4.64	R	R	1316	1
5.15	-13.99	198.40	873	2	4.63	R	R	1283	1
5.10	-14.51	205.90	890	2	4.62	R	R	1265	1
5.09	-14.54	207.60	894	2	4.61	R	R	1257	1
5.00	-14.54	209.40	898	2	4.60	R	R	1252	1
5.07	-14.50	211.30	903	2	4.59	R	R	1253	1
5.00	-14.42	213.25	907	2	4.58	R	R	1256	1
5.05	-14.29	215.25	912	2	4.57	R	R	1263	1
5.04	-14.10	217.30	917	2	4.56	R	R	1091	2
5.05	-13.80	219.62	922	2	4.55	R	R	1100	2
5.02	-13.55	221.99	928	2	4.54	R	R	1114	2
5.01	-13.17	224.40	934	2	4.53	R	R	1218	2
5.00	-12.70	227.12	940	2	4.52	R	R	4423	1
4.99	-12.13	229.93	947	2	4.51	R	R	3721	2
4.90	-11.45	232.92	954	2	4.50	-3.84	586.41	4396	2
4.97	-10.65	236.12	962	2	4.49	9.92	762.01	5705	2
4.90	-9.71	239.59	971	2	4.48	R	R	2171	2
4.95	-8.62	243.35	980	2	4.47	13.04	493.79	4839	1
4.94	-7.30	247.44	991	2	4.46	3.75	416.19	3046	1
4.95	-5.91	251.97	1003	2	4.45	0.43	487.36	4654	1
4.92	-4.20	257.00	1010	2	4.44	R	R	4212	1
4.91	-2.47	262.87	1031	2	4.43	R	R	4166	1
4.90	-.53	269.70	1049	2	4.42	R	R	7343	1
4.89	1.41	277.99	1277	1	4.41	R	R	11901	1

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SOYA VOYAGE (CONTINUED - PAGE 2)

GEOGRAPHIC LATITUDE = 34.60 S

GEOGRAPHIC LONGITUDE = 23.20 E

TRAJECTORIES CALCULATED USING THE JENSEN AND CAIN FIELD COEFFICIENTS

P	ASYMPTOTIC LAT	LONG	NSTEP	SS	P	ASYMPTOTIC LAT	LONG	NSTEP	SS
4.40	H	H	5813	1	4.15	R	R	4633	2
4.39	11.15	511.72	3761	1	4.13	R	R	7794	1
4.38	-10.33	732.96	7598	1	4.10	R	R	2123	2
4.37	6.44	926.06	9638	1	4.08	R	R	2500	1
4.36	14.21	489.63	3131	1	4.05	F	F	10000	2
4.35	12.50	776.95	8050	1	4.03	R	R	7290	1
4.34	H	H	2117	1	4.00	R	R	4231	2
4.33	H	H	9103	1	3.98	R	R	8090	1
4.32	H	H	3423	1	3.93	R	R	1579	1
4.31	-6.94	1018.47	10143	1	3.88	R	R	9505	1
4.30	H	H	9027	1	3.83	R	R	6407	1
4.29	-7.44	671.04	7521	1	3.78	F	F	15001	1
4.28	H	H	4666	1	3.73	R	R	4515	1
4.27	H	H	3563	1	3.68	F	F	15001	1
4.26	H	H	1763	1	3.63	R	R	1936	1
4.25	H	H	1730	1	3.58	R	R	8948	1
4.24	H	H	1737	1	3.53	R	R	3223	1
4.23	H	H	1732	1	3.48	R	R	10660	1
4.22	H	H	1796	1	3.43	R	R	14342	1
4.21	H	H	4525	1	3.38	R	R	5509	1
4.20	H	H	7443	1	3.33	R	R	6729	1
4.19	H	H	9111	1	3.28	R	R	1743	1
4.18	H	H	5236	1	3.23	R	R	1747	1
					3.18	R	R	11904	1



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<p>A study has been made of vertically incident cosmic-ray trajectories at more than 400 positions on the earth's surface using sixth-degree simulations of the quiescent geomagnetic field. Twenty-six of these positions are near the South African magnetic anomaly, and six other points are in a region of the North Atlantic where Pomerants and Agarwal have reported anomalous results. The trajectories have been calculated for rigidities separated by intervals as small as 0.01 bv to allow for the effects of the penumbra. When these trajectories are used to determine cosmic-ray cutoff rigidities, differences greater than 15 percent from the Quenby and Wenk threshold values are found in the vicinity of South Africa, the South Atlantic, and the Canary Islands. Various latitude surveys are shown to exhibit consistency when plotted against the cutoff rigidities determined by this computational method. It is concluded that although currently available simulations of the geomagnetic field are not completely adequate over some portions of the earth to describe the cosmic-ray effects in their entirety, there is essentially no difference in the cutoff rigidities determined using two currently accepted field models even though different penumbral structures are obtained. Asymptotic directions of approach and cutoff rigidities for a number of locations are listed.</p>		

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